DEVOTED TO AGRICULTURE AND ITS KINDRED ARTS AND SCIENCES.

VOL. V. BOSTON, JULY, 1853. NO. 7.

RAYNOLDS & NOURSE, Proprietors.
Office....Quincy Hall.

SIMON BROWN, Editor.

FRED'K HOLBROOK, } Associate
HENRY F. FRENCH, } Editors.

CALENDAR FOR JULY.

"Now comes JULY, and with his fervid noon
Unsinews labor. The swinkt* mower sleeps;
The weary maid rakes feebly; the warm swain
Pitches his load reluctant; the faint steer,
Lashing his sides, draws sulkily along
The slow encumbered wain in midday heat."

A great many of the words we use, as well as a great many of the arts we practice and customs we observe, are borrowed from the Germans. Thus we heard a neighbor say the other day, that he "always had to *stang* the hay out of a certain meadow." The word being new to us, we asked such questions as caused him to repeat his remark two or three times, until we were satisfied that he meant to say he was obliged to *pole* out his hay. On reference to Webster we found the word *stang*, common to several languages, the Saxon, Danish, German and Swedish, and means a *pole*.

To ride the stang, is to be carried on a pole on men's shoulders, in derision.

The word is used here, only among the descendants of the old English settlers.

The old Saxon and German words are often beautifully expressive. JULY, they called *henmonath*, which probably expressed the meaning of the German word *hain*, signifying wood or trees, and hence *henmonath* might mean foliage month. They also called it *heymonath*, or *haymonth*; because "therein they usually mowed and made their hay-harvest."

It is to be regretted that so few of our writers give their thoughts and pens to descriptions of the changes and beauties of the seasons, instead of the senseless tales of fiction which are enfeebling the minds of so many of our youth, and exciting them to revel in the voluptuous scenes they describe.

It is their truthfulness to nature—their strong common sense views of the living and breathing world about them, that gives such life and force to the writings of the old English authors. They will exist and instruct, long after mountains of the modern trash will be consigned to their merited dust.

In his "Months," Leigh Hunt, with his accustomed minuteness of observation, says "the heat is greatest in this month on account of its previous duration. The reason why it is less so in August is, that the days are then much shorter, and the influence of the sun has been gradually diminishing. There is a sense of heat and quiet all over nature. The birds are silent. The little brooks are dried up. The earth is chapped with parching. The shadows of the trees are particularly grateful, heavy, and still. The cattle stand in the shade, or stand in the water. The active and air-cutting swallows, now beginning to assemble for migration, seek their prey about the shady places, where the insects, though of differently compounded natures, 'fleshless and bloodless,' seem to get for coolness, as they do at other times for warmth." There are, also, strange humming sounds in the air as of innumerable insects, though none can be seen—

"Their murmuring small trumpets sounden wide,"

as Spencer says. And in the blazing sun, by the dusty way-side, the locust utters his harsh note with screeching wing.

A thousand other pleasant things press on the thoughts, which we will not utter, lest some declare "they *are not practical, they do not teach the art of rearing stock, or of cultivating well.*" Here, then, we are at issue—for it is our firm belief that the farmer who closest observes the operations of nature, such as the birds and animals and insects she periodically brings; notes their habits, the food they require and their modes of propagation, will, all other things being equal, be *the best and thriftiest farmer, the best citizen, and the better prepared for Heaven when his last crops are harvested here!*

The poet did not take too much license when he said there is "sermons in stones"—they *are* there, just as much as there is sound doctrine and whole-

* SWINKT.—*Over-labored, tired.*

some reproof in the sermons which you sleep under on Sunday. If you do not hear "music in the running brooks," it is because your heart is not attuned to nature, but still dwells among the clods!

How many of these beautiful things, so interesting, impressive, and full of teaching, are passed unnoticed by us, votaries as we are, of this work-a-day world.

But as the busy season of haying approaches, our week-day sermon shall be short, important as it may appear to us.

THE HAY CROP.—This is the leading crop of New England. Its aggregate value, if known, even in Massachusetts, would be a matter of surprise to most of us. But *we are too poor* yet, to have reliable statistics on this, or any other agricultural product, in our State! The value and importance of the crop must be *guessed* at a little longer.

A large proportion of the grass cut, is herds grass or timothy, it being the same grass, but called by these different names. When well cured it is an excellent fodder; the cattle eat it with avidity and thrive well on it, and will so continue through the winter. When grown on new, rich ground, it is coarse and wiry, and inferior to clover or red top. Herds grass may be cured or hayed in one day as well as two if cut early in the morning and closely tended until 3 o'clock, of a hot July day.

Clover-hay has fallen into disrepute with many, and we think in consequence of its being so often improperly cured. Cut it in the morning and let it remain in swath until 3 or 4 o'clock in the afternoon, when it should be carefully turned upside down, and left until the following day. About 2 or 3 o'clock on the second day take up the swaths carefully with a fork, and lay them in cocks where they may remain 36 or 48 hours, and should not be opened until there is a fair prospect of obtaining a few hours of good weather to complete the curing process. When this is the case, open the cocks as soon as the dew is off, only partially spreading them. If thought not to be sufficiently dry on examination, they may be carefully turned, and in an hour or two afterwards got in.

When clover is prepared in this manner, the leaves will adhere to the stems, the cattle will eat the whole with a high relish, and we scarcely believe that any fodder is more profitable for them.

Hay is as often made too much as too little. Indeed, we believe it the fault of New England hay-makers that they dry the grass too much. The secret of making good hay, says Low, is to prepare it as quickly as possible, and with as little exposure to the weather, and as little waste of the natural juices, as circumstances will allow. When we are enabled to do this the hay will be sweet, fragrant, and of a greenish color.

HOEING.—This important operation must not be neglected in order to hurry on the haying. The loss on your growing crops would be greater by such neglect, than to leave a few acres of grass beyond the proper time for cutting. It will be well to remember *that the atmosphere is the great store-house of manures*, and that it will not impart them to a hard, unyielding soil, be it ever so hungry. Hoe, then, you that thirst for richer soils and larger crops. But you need not do it all with your own hands; make the "old mare," or "Jerry," do it with the horse hoe or cultivator.

ROOTS.—It will not be too late to put in any of the turnip crops early in July. Raise roots for your stock, and use the money for other purposes which you have heretofore expended in the purchase of grain. Weed thoroughly and stir the ground often, and with God's blessing you will not fail of a good crop. Purchase one of the Essex County Onion Hoes and your root crops will cost you only about half as much as they will without it—provided you use it often. The cost is $1,50 cents. Try it, and you will feel encouraged to cultivate more roots.

YOURSELF—gentle reader—makes an important item of your care. Without firm health there will be little elasticity of body or mind. Retire and rise early—

> "Of all the hours of cheerful light,
> The morning is the best."

Don't hurry, nor fret, unless the farm implements are left dirty and out of place; fretting *is* pardonable in such a case, *if it will do any good!*

When fatigued, rest; when hungry, eat moderately; when thirsty, rinse the mouth, and bathe the wrists and forehead before drinking, and as a general rule avoid ice-water. Stimulants, of any sort, as a beverage, are injurious. Eat sparingly of meat—it is too stimulating for hot weather; shun unripe fruits and scolding, of every sort.

If the garden has been well conducted it will now afford an abundant supply of cheap and wholesome food, which will not only nourish the body but gladden the heart.

Observing these simple rules, you ought to be happy and cheerful, and make glad the heart of your wife and children; and lacking these, gladden the heart of some pretty maiden, who likely enough, would *be willing* to become your "gude vrouw."

But enough for a hot day in July—when the thermometer is at 101½ degrees! We shall now seek the fields, wishing you a God-speed in your labors through all this beautiful HAY-MONTH or JULY!

ROCKINGHAM FAIR.—The first exhibition of the Rockingham Fair, will be held at Exeter, N. H., September 15th. The address will be delivered by Mr. BROWN, of the *New England Farmer*. A plowing match will take place, on the day of the Fair.

For the New England Farmer.

BIRDS OF NEW ENGLAND.

THEIR PAST AND PRESENT HISTORY..... No. 5.

BY S. P. FOWLER.

OMNIVOROUS BIRDS.

The American Starling or Meadow Lark, is a bird, well known in New England, and often seen in our old fields and meadows. It is a shy bird, with a plaintive, agreeable note, and perfectly harmless in its habits, feeding upon insects, worms, beetles, the seeds of grass and weeds.—There is no bird that can better claim the protection of the farmer, than the meadow lark.

The Baltimore Oriole, or Golden Robin, is a beautiful and interesting bird. With us they are only a summer resident; leaving us in autumn, they pass on through the States, to Mexico, where they remain in flocks through the winter. They arrive with us in the latter part of May, when our fruit trees are in blossom, and, by their beautiful appearance and mellow notes, add much to the gaiety of the season. They are particularly fond of hanging their pensile nests, to the drooping limbs of the white elm, and spend the breeding season in the vicinity of gardens and orchards; and we always associate these brilliant birds, and their whistling trumpet-notes, with a lovely, quiet summer's day, in leafy June, when the very atmosphere is fragrant with flowers. The Golden Robin feeds principally upon insects, during the spring and summer months, and later in the season it subsists on fruits and seeds. Mr. Audubon says they feed on cherries, mulberries and strawberries, but this is not in accordance with our own observation. They sometimes attack the pea vines, for the purpose of obtaining the grub of the pea bug, which is found therein, and not for the love of the pea, as has been erroneously supposed. These birds certainly deserve the protection of farmers and horticulturists.

We are now about to notice one of our most mischievous birds, the Red-winged Blackbird. He has long been known to the farmer as a sad thief, and was regarded by the Indians as a troublesome fellow, long before he was known to us.—And here, with the permission of the reader, we will step aside, and turn back for the purpose of relating the past history of the blackbird, as found in Roger Williams' Key to the Indian Language, published in 1643, and to furnish an account of the method pursued by the Indians, to protect their corn from the depredations of these birds.—Mr. Williams says "of the black-birds, there be millions, which are great devourers of the Indian corn, as soon as it appears out of the ground; unto this sort of birds, especially, may the mysticall Fowles, the *Divells* be well remembered [and so it pleaseth the Lord Jesus himselfe, to observe Matthew 13] which mysticall Fowle follow the sowing of the word, and pick it up from loose and carelesse hearers as these black-birds follow the material seed. Against these birds, the Indians are very carefull, both to set their corne deep enough, that it may have a strong root, not so apt to be pluckt up [not too deep, lest they bury it, and it never comes up:] as also they put up little watch-houses in the middle of their fields, in which they, or their biggest children lodge, and early in the morning prevent the birds," &c. The Red-winged blackbird is a summer resident in the whole of North America, and is found in the greatest abundance. It is probably one of our most mischievous birds, and many suppose that very little can be said in its favor, to recommend it to the protection of the farmer. But we shall find when we are better acquainted with the habits of the Red-wings, that the benefits derived from them much more than counterbalance the mischief they occasion. Mr Wilson, the ornithologist, who appears to have noticed with care the habits of the bird, under consideration, as they appeared to him in the Middle States, says, "they arrive in Pennsylvania late in March. Their general food at this season, as well as durrng the early part of summer consists of grub worms, caterpillars, and various other larva, the silent, but deadly enemies of all vegetation, and whose secret and insiduous attacks are more to be dreaded by tne husbandman, than the combined forces of the whole feathered tribes together. For these vermin, the Red-winged Blackbirds search with diligence; in the ground, at the roots of plants, in orchards and meadows, as well as among buds, leaves and blossoms, and from their known voracity, the multitudes of these insects which they destroy must be immense. Let me illustrate this, by a short computation.

If we suppose each bird on an average, to devour fifty of these larva in a day [a very moderate allowance] a single pair in four months, the usual time such food is sought after, will consume upwards of twelve thousand. It is believed, that not less than a million pair of these birds are distributed over the whole extent of the United States in summer, whose food being nearly the same, would swell the amount of vermin destroyed, to twelve thousand millions. But the number of young birds may be fairly estimated at double that of their parents; and as these are constantly fed on larva for at least three weeks, making only the same allowance for them as for the old ones, their share would amount to four thousand two hundred millions; making a grand total of sixteen thousand two hundred millions of noxious insects destroyed in the space of four months by this single species! The combined ravages of such a hideous host of vermin would be sufficient to spread famine and desolation over a wide extent of the richest and best cultivated country on earth.

All this, it may be said, is mere supposition.—It is, however, supposition founded on known and acknowledged facts. "I have," continued Mr. Wilson, "never dissected any of these birds in spring, without receiving the most striking and satisfactory proofs of these facts; and though in a matter of this kind, it is impossible to ascertain precisely the amount of the benefits derived by agriculture from this and many other species of our birds, yet in the present case, I cannot resist the belief that the services of this species, in spring, are far more important and beneficial than the value of all that portion of corn which a careful and active farmer permits himself to lose by it. Mr. Audubon, who was perhaps better acquainted with the habits of our birds than any other person, says the Red-winged Blackbird is so well known as being a bird of the most nefarious propensities, that in "the United States one can hardly mention its name, without hearing such an account of its pilferings as might induce the young student in nature to conceive that it had been created for the

purpose of annoying the farmer. That it destroys an astonishing quantity of corn, rice and other kinds of grain, cannot be denied; but that before it commences its ravages, it has proved highly serviceable to the crops, is equally certain. The million of insects which the Red-wings destroy at this early season, are, in my opinion, a full equivalent for the corn which they eat at another period.

Mr. Nuttall, our own New England ornithologist, fully endorses the opinions of Wilson, in regard to the utility of the Red-wings in destroying insects, and adds, Kalm remarked, that after a great destruction made among these, and the Crow Blackbirds, for the legal reward of three pence a dozen, the Northern States, in 1749, experienced a complete loss of the grass and grain crops, which were now devoured by insects. In a former communication upon the value of the Indian corn, we alluded to a tradition among the Indians, that the Red-winged Blackbird first brought the maize or corn into New England from Mexico.—This belief induced them to spare the lives of these birds, although they undoubtedly caused them much trouble in their little corn fields. Now we are not disposed at this late period, and with nothing but the shadowy evidence of an Indian tradition, to attempt to establish the claims of the Red-wing, in introducing that most valuable plant, the Indian corn, and perhaps thereby obtain a silver whistle, from the Massachusetts Horticultural Society, lest a rival from some unexpected quarter should arise, and contest the prize with our bird. And judging from the blackbird's love of Indian corn, and their boldness at all times, and in all places, in appropriating it to their own use, we should suppose the birds themselves believed the tradition, and that they were but honestly taking what in part belonged to them. Finally, in view of all that has been said in favor of the Red-wing, we may justly claim for them exemption from the cruel assaults of idle gunners, truant schoolboys, and from the necessity of witnessing the vain attempts of honest farmers to frighten them with scare crows.

We are now about to notice the most singular bird, we mean so far as its habits are concerned, to be found in the Union. It is the Cow Blackbird, and is but little known, except to ornithologists. Boys, sometimes, in their excursions after birds' egg, when peeping into the hanging nest of the Red-eyed Fly-Catcher, notice one egg, differently marked, and larger than the rest, but are not aware that it belongs to the bird under consideration. Like the European Cuckoo, they never pair like other birds, but males and females flock together, and roam over the country, living in a state of concubinage and vagrancy, like a band of Gipsies. Their young are never cared for by their parents, but are bred as foundlings, they being the only bird found in this country that do not build a nest, and feed their young. As we have before remarked, the Cow-birds are banded together in small parties, both male and female, during the summer months, and in the breeding season, and, when the female is prompted by nature to lay her egg, she leaves her companions in the flock, and searches for the nest of some small bird, in which to make her deposits. If she chances to find the neat basket nest of the Red-eyed Fly-catcher, and the owner of it not at home, she slyly and in great haste, drops in the nest her solitary egg, and quickly leaves the premises, and again joins the flock, usually uttering some notes expressive of her success, in thus relieving herself of her care. The honest mother and owner of the nest, upon her return, as we may well suppose, feels indignant at the shameful conduct of the Cow-bird, but if she had eggs of her own, in the nest before the deposit of the strange egg is made, the attachment to home is sufficiently strong to prevent her abandoning her nest. Some birds, who have had their homes visited by the Cow-bird, build a false bottom to their nest, and thus covering the egg of the parasite, prevents its incubation. Upon this additional flooring in the nest, the parent bird commences anew to lay her eggs. But usually the Red-eye, after the egg of the Cow-bird is deposited, commences sitting, and in due time the parasite egg is hatched, always before the eggs of the parent bird. The young of the Red-eyed Fly-catcher, or Vireo, usually does not appear until the 13th day from the time incubation commences, whereas, the young of the Cow-bird usually appears on the twelfth day. Should the Red-eye continue on the nest until all the eggs are hatched, the young Cow-bird being a much larger bird, and receiving the most attention from the duped nurse, grows apace, until he nearly fills the small and crowded nest, fairly covering up, putting out of sight, and at last stifling the young of the legitimate bird, which when dead, are carried from the nest by the foster parent, leaving the black stranger alone in the nest, to enjoy all her affectionate attention.—It frequently happens that the Red-eyed Vireo, upon the hatching of the egg of the Cow-bird, which we have before said takes place before that of the vireo, immediately leaves the nest, to supply the foundling with food, and by so doing leaves her own eggs to perish, for the want of a little more incubation. The unhatched eggs are soon ejected by the parent bird, from the nest, as is supposed, who continues to feed the sooty stranger until he leaves the nest, and for some time after. Some thirty years since, we took an egg of the Cow-bird from the nest of the Red-eyed Vireo, and placed it in the nest of a barn swallow, for the purpose of more conveniently watching its incubation. At the time of the deposit there were three eggs in the nest of the swallow, when she laid one more egg and commenced sitting. In about twelve or thirteen days, I noticed that the parasite's egg was hatched, but the swallow's eggs were not. Soon after the hatching of the Cow-bird, the swallow came off her nest, and neglected her incubation, to supply the young foundling with food. The then remaining unhatched eggs of the swallow, after a few days, were ejected as I then supposed by the parent bird, and were found under the nest. The foundling had now the whole nest to himself, and being constantly fed, by both the male and female swallows, became exceedingly large and fat, completely filling the nest, and still clamorous for food. The swallows continued to feed the young bird for several days after it left the nest, and one day, I believe, upon the top of the barn, where it attracted considerable attention from persons passing by.

The egg of the Cow-bird is oval, and small, we should think, for the size of the bird, and thickly marked with small spots of olive brown, on a white ground, tinged with green. The eggs of the

Red-eyed Fly-catcher are white, with a few small brown spots at the large end. We give these descriptions, with the beautiful basket nest of the Red-eye, containing the eggs of the duped owner of it, and the solitary egg of the vagrant, on a table before us, and we can but notice the great difference between them, both as to size, markings and figure. The favorite nurse selected by the parasite, is the Red-eyed Fly-catcher. But when she is not to be found, she seeks the nest of the White-eyed Fly-Catcher, Maryland Yellow Throat, Indigo Bird, Chipping Sparrow, Song Sparrow, Blue-eyed Yellow Warbler, Blue Grey Fly-catcher, Golden-crowned Thrush, Wilson's Thrush Blue Bird, and some others. The Cow-bird is known by many names, such as the Cow-Tropical, Cow-pen Bird, Cow Black-bird, Cow-pen Bunting, and Cow-pen Finch. The Cow-bird should not be confounded with the American Cuckoo, so called from its notes resembling the words cow, cow. The cuckoo builds a rude nest of its own and lays four or five greenish blue eggs, which it hatches, and rears its young with great care.—The singular habits of the Cow-bird have for many years attracted the notice of ornithologists. Mr. Wilson, when speaking of the bird, remarks, "what reason nature may have for this extraordinary deviation from her general practice is, I confess, altogether beyond comprehension. There is nothing singular to be observed in the anatomical structure of the bird, that would seem to prevent or render it incapable of incubation. Many conjectures, indeed, might be formed as to the probable cause, but all of them that have occurred to me, are unsatisfactory and inconsistent. Future and more numerous observations, made with care, may throw more light on this matter; till then, we can only rest satisfied with the reality of the fact." These remarks were made by Mr. Wilson in his Ornithology, more than forty years since, and we are not aware that any more light upon the subject of the strange habits of the Cow-bird, has been elicited.

Modern naturalists have recognized among some animals, certain aberrant and mutilated forms, and establish what they term the theory of degradation. And for an example they give us the misplacement of parts such as are now exhibited in the fish, known as the flounders, turbot and halibut. These are supposed to have once moved about upright, like other fishes, but from some cause or other, a long time ago, they were thrown over, and made to swim upon their sides, their squinting eyes stuck upon the top of their heads, and their mouths twisted awry. The Scriptures teach us also, that man himself is in a state of moral degradation, and his affections misplaced.—But we are precluded from supposing that the Cow-bird has, at any period, suffered from degradation or misplacement of its parts, thereby rendering it incapable of incubation; from the fact, that upon dissecting it, no disarrangement has as yet been found. We think it is evident, that the Cow-bird's unnatural habits are such as were given it, by the Author of its being, and are not the result of degradation, or mutilated forms, or a vice of habit. This to my mind is very evident, when we consider the singular fact, that when its solitary egg is deposited, with those of the duped nurse, in the same nest, the parasite's egg invariably hatches from twenty-four to forty-eight hours before those of the foster parent. Here we find a special provision made in favor of the Cow-bird, on which depends the continuation of the species. By consulting the early writers on our ornithology, we learn that its vagrant habits have not changed during a period of more than one hundred years.

We will close this article by observing that the Cow-birds are thought by ornithologists to be related to the Red-winged Blackbirds, certainly as near as cousins, with whom they are often seen associated, but are much less inclined to injure the crops of the farmer, and feed more upon insects than their namesakes, the Red-wings. S. P. P.

Danversport, March 1, 1853.

[TO BE CONTINUED.]

RIDGING---DRAINING.

"Stagnant water," says Loudon, "may be considered to be injurious to all the useful classes of plants, by obstructing perspiration and intro-susception, and thus diseasing their roots and submerged parts. Where the surface soil is properly constituted, and rests on a subsoil moderately porous, both will hold water by capillary attraction, and what is not so retained, will sink into the interior strata, by its gravity; but where the subsoil is retentive, it will resist, or not admit, with sufficient rapidity, the percolation of water to the strata below, and which, accumulating in the surface soil, till its proportion becomes excessive in a component part, not only carries off the extractive matter (the food of plants,) but diseases the plants themselves. Hence the origin of surface draining, that is, laying lands in ridges or beds, or intersecting it with small open gutters."

The reader will perceive at once from the foregoing, that the propriety or impropriety of adopting this method of amelioration, will depend upon a variety of circumstances, which may vary, and indeed *do* vary, in every district, and on almost every farm. General rules cannot, of course, be expected; as a course of procedure which might be perfectly beneficial on an undulating and warm surface, in one locality, would be highly prejudicial in another. Where the soil is of a cold or humid character, or where the surface is of a more porous or friable texture, but reposes on a substratum of a compact and tenacious formation, the adoption of this system of drainage cannot be otherwise than beneficial. But in all cases where the subsoil is open and porous, as in the case of gravelly substrata, and where, consequently, the superabundant moisture or water encounters few or no obstacles in its descent, but is permitted freely to percolate and pass off, throwing the surface into ridges, as is the proper course under an opposite modification of physical circumstances, is by no means advisable, as it is calculated to produce far greater harm than good. As to ridges, when necessary, the following rules may be observed:—

1. Ridges should be laid with the slope of the

field, that the waters may pass off freely; and if hollows or hills intervene, cross drains should be cut, after the field is ridged, from the low places, to carry off the water, in the direction to which the surface inclines.

2. The breadth of the ridge must depend upon circumstances, and may vary from two to thirty feet. The flatter the surface, and the more tenacious the soil, the narrower should the ridges be laid. The manner of forming them of different breadth, and of different inclination of surface, will be found amply described in the course of our previous volumes. It is well to remark to those who admire and imitate British husbandry, that ridging is not so essential here as in Great Britain —from the circumstance of our climate being warm and less humid.

For the New England Farmer.

STRAWBERRIES.

MR. FARMER:—Perhaps some of your readers would like to know how strawberries are produced in such abundance in this region. Having taken a pedestrian trip among the gardens of Ann Arundell Co. one day last week, I will give you the result of my observations, touching this matter.

All the land, which I saw devoted to strawberries, was of lightish sandy soil. It is prepared, as it would be for corn, by plowing and manuring freely, with such manure as is brought from the city. The price of manure, in Baltimore, is 62½ cts. a cart load, or about $1,50 per cord.

The land is prepared and the roots are set in April. They are planted in rows, about five feet apart. The plants, in the rows, 18 inches. The plow and cultivator are run between the rows, disturbing the ground two feet in width, leaving three feet to be occupied by the vines. During the first season, no fruit is expected, but much pains is taken to keep the ground clean of grass and weeds. The second year, they look for fruit, and as long thereafter as the cultivator chooses to keep the ground clean, which I believe, seldom exceeds three or four seasons.

The kinds cultivated are the "Alpine," "Hovey's Seedling," "Pine Apple," and what is here called the "Heart Strawberry." Hovey's seedling is not liked, by the cultivator. The berry is large, but in number, few.

The picking is mostly done by colored hands, free and slave, who, in the season of fruit, make business of picking.

The regular price, for picking, is one cent and a half a quart. In the best of the season, the most expert hands often pick 200 quarts a day. It is not uncommon to see fifty hands picking in one field.

For picking, wooden boxes are used, holding a quart each. These are distributed along the rows, by the superintendent, as they will be needed. The picker fills and leaves them upon the ground, where they are counted and entered to his credit. These boxes are placed with care in a large chest, perforated with holes, for the free admission of air, and in this way, carried to market, without injury. Large quantities are carried from here to Philadelphia and to New York.

Strawberry picking is a gala season, with the negroes. As great numbers of them are assembled, on these occasions, they are wont to gather together, at the close of the day, under the protection of some large tree, if they can find no better shelter,—bring out the fiddle, and spend much of the night in hopping it on the light fantastic toe. Why not as proper, as the occasion of sheepshearing or cornshucking?

As in other departments of horticulture, the gardeners go into the strawberry business, on a pretty large scale. A gentleman, by the name of Brian, has one hundred and fifty acres in strawberries. He picked, I am informed, 200,000 quarts last year, and cleared, on that crop alone, $5000. He produced peaches and garden vegetables in like proportion.

So abundant are these berries in Baltimore markets, that they are sold very low. They begin at 25 cts. per quart, but soon get down to six cts: and the latter part of the season, may be had in any quantity for *four* cts.

Why may not these berries be produced, in abundance, in New England? I believe the climate and soil are both as well adapted to their growth. They grow spontaneously in most parts of every State in New England. Not so here. They are seldom seen in the fields. There needs but attention, on the part of gardeners, and good strawberries may be had in your markets, for less than 25 cts. for a *quart* basket holding but a *pint*.

R. B. H.

Baltimore, June 8, 1853.

THE TURNIP CROP.

The time was when little was known of the turnip family except from two of its members, the common flat and the long and many rooted French variety. These were raised only for the table. The French was sowed in May and transplanted like the cabbage, and from one-half to two bushels was a large crop for one family. For the common turnips nothing would answer but a piece of new land well burnt over and proceeded with by the law,

"Twenty-fifth of July,
Sow your turnips, wet or dry."

Some fifteen years since the Ruta Baga, was introduced, and a real "Multicaulis" fever followed. The doctrine became prevalent, that if a man raised a half acre of Ruta Bagas, it would be all sufficient to winter two horses, twenty cows, and a hundred sheep, with the usual complement of pigs and poultry. It was found, as a matter of course, that it failed to do this, and not answering these extravagant expectations, it was cast out as a worthless thing. Like some other friends whom arbitrary decisions have banished, it has been recalled, and found truly valuable, as answering all reasonable expectations. Next to the Ruta Baga came the true long white or cow-horn, raised like the common flat, and a valuable addition to the list. The yellow Aberdeen has been added. This may be raised by broadcast sowing, but is much improved by drilling and hoeing. Recently we have some very valuable turnips for table use and for stock, introduced from abroad, under the names of the long yellow, the Grecian, the Sweet, the Spring, the Cabbage, the Swedish, &c. There are among them two or more distinct varieties, al-

though the same varieties pass under different names. Some of them are yellow, others white. They keep well through the winter and spring and are very valuable in that dry period which precedes the early garden vegetables.

Their culture is similar to the ruta baga, sugar beet and carrot. The ground should be made rich, well and deeply plowed, and made fine.

Much difference of opinion exists as to the time of sowing not only the turnip, but the beet and the carrot. From the first to the tenth of June we should prefer. If sowed early the vegetation of the seed is a little less certain, and always slower. The ground becomes hard, the weeds get the start of the plants, and the labor of tending is much increased. But if the ground is replowed or thoroughly pulverized with a good cultivator in the first part of June, one crop of weeds is destroyed, the seed comes quick and the plants are strong, insects are less troublesome and less destructive, and the labor of weeding very much less.

If you ask farmers why they raise so few roots, one-half at least will tell you it is too much work to weed them. This is a true answer if the method often pursued is adopted. But if the ground is plowed early and manured with some compost or other article in which the seeds of weeds are wanting, and the ground stirred so as to kill all the weeds that may start before June, then sowed in rows eighteen inches or two feet apart, and the plants thinned so that a hoe will pass between them in the rows, the labor will be reduced to less than one-fourth what it will be if the ground is manured with common stable manure and the sowing made before the middle of May, and in such manner that the fingers are the chief instrument of culture. Raised for extensive use, they must be raised as other field crops are. The plow and hoe must do the work which in garden culture is performed by the spade and the fingers. In this way, and in this only, can the farmer afford to cultivate *roots for stock.—Culturist and Gazette.*

Remarks.—Good crops of turnips may be had by sowing any time before the 10th of July, or even later. But if convenient, we should prefer sowing in June.

For the New England Farmer.

THE POTATO CROP.

Mr. Editor:—Sir, as the subject of the rot has been brought up this spring through the columns of your paper, I should like to have the farmers try my method to prevent the disease, which is, in the first place you are not to plant potatoes where corn will not do well, and then spread your manure and plow it in; let your furrows run north and south three feet apart, your hills two and a half; plant first a row of corn, next a row of potatoes, and so on through the field, the last row corn. Put on a table spoonful of salt to each hill. When your potatoes are up, put on a pint of unleached ashes, or slaked lime round the vines; let the tops of stalks stand till digging time, not put your potatoes in the cellar till the first of October; have your cellar well ventilated, and put one bushel of pulverized charcoal to every fifty bushels potatoes.

Those that have taken the *New England Farmer* for two years past will recollect seeing this remedy published. I have tried it the past year, and the result was, not a single diseased potato.

Georgetown, Mass., 1853. I. N. M.

Remarks.—The above was mislaid; but some of its advice may be adopted now if any one desires so to do. Very few potatoes rotted last year where no precautions were taken. When a "sovereign balm" is found to cure the sycamores, we shall have hope that a remedy for the potato rot is discovered. We predict a fair crop of sound potatoes from the present planting. Planting alternate rows of corn with the potato has been often tried without valuable results.

From the New England Farmer.

TO PRESERVE MANURES.

It is very easy to preserve the most valuable of all fertilizers, that brown, fetid liquor, that is so often allowed to run away, or the gases that are allowed to escape from the manure heap, by a little judicious care, at a very trifling expense. To accomplish this, take a quantity of the sulphate of iron, (green copperas,) which is easily dissolved in water, at a temperature of 100 degrees. When completely dissolved, mix it with water of the dung heap, adding a fresh quantity of the sulphate of iron each time; when the water from the dung heap is alkalized, after having run through it, repeated throwing over the dung heap, it is easily ascertained by dipping a piece of litmus paper into it, when the color turns brown or red, and the water thus charged with the sulphate of iron in a state of solution penetrates into every pore of the heap, and converts the carbonate of ammonia, which is very volatile, into the sulphate of ammonia. By adopting this system or process, the richness and duration of the dung are considerably increased, at a very trifling expense. The manure thus saturated with the sulphate of iron can be exposed to the sun and air without losing its most essential properties, because the sulphate of ammonia does not volatilize itself, like the carbonate of ammonia. M. A. Perry.

Watertown, June, 1853.

For the New England Farmer.

FRONT FENCES—SETTING POSTS.

Mr. Editor:—I wish to make a few inquiries of you or your correspondents. I wish to build a door yard fence. It should be plain, not expensive, but one that will *look well* when completed. Posts set in the common way would be sadly thrown with the frost. In view of this, in what manner or style should the fence be built? How can posts be set so as to prevent them from being heaved with the frost? Permit me also to inquire the best way to exterminate alder bushes, that grow so luxuriantly on the margin of brooks. By answering these inquiries in the *Farmer*, if proper, you will greatly oblige myself, and I doubt not many others of your readers.

Yours, &c., S. G. B.

Remarks.—Many of our readers have the knowledge which "S. G. B." wants; will some one oblige us and him by communicating it soon?

WATERING THE GARDEN.

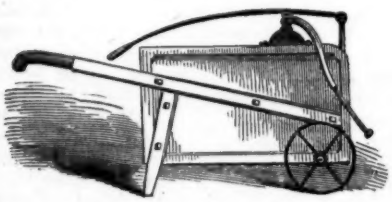
THE WATERING POT.

The season has arrived when the garden usually requires a little more moisture than the clouds send, in order to secure a good crop of the garden vegetables. We offer therefore a few suggestions and helps to the gardener in the way of watering. Great benefit may be derived from mulching; for it is as well to prevent excessive evaporation as to supply the water.

The first cut is the common WATERING POT. It is an article indispensable in every good garden, and will be found of great service in distributing guano water over the plants.

THE WATER CARRIER.

The second is the WATER CARRIER, and consists merely of a tight barrel or cask, attached to a pair of old wheels, and used for carrying water about the grounds, or bringing water from brooks or springs for washing and other household purposes. When large quantities are wanted, this is far less tiresome than to carry it in buckets. Besides, it makes a great saving of time. No person who has ever made use of one would willingly be deprived of it. Its cost would be saved in one season.



THE GARDEN ENGINE.

This machine is adapted to the wants of a very large garden. The one represented above will hold about forty gallons, and can be easily wheeled around and worked by one person. It will throw water to the height of forty feet, and to the distance of seventy feet horizontally. It may, therefore, be found of use in extinguishing fire in buildings.

BUCKWHEAT.

Buckwheat—or Beechwheat, as it should have been called, for it was named from its resemblance to the beech nut—is an excellent crop as far as it goes, and for the uses required. It is easily raised, requiring neither an extra rich soil nor a culture more particular than good management requires for any crop. The late period in the season when it may be sown allows a destruction of weeds at a time when such destruction is commonly fatal to them; so that the culture of this crop is favorable to clean fields.

It may be sown at any time during the month of June; and we have known it to be put in on the fourth of July, in a region where the summers are shorter than ours, and a good crop obtained. It is usual to sow from three pecks to a bushel per acre broadcast and cover with the harrow. It is desirable to roll the ground after sowing. In addition to the common reasons for so doing, the crop grows low, and is liable, without careful management, to become foul with sand or earth, and thus injure the flour made from the grain. The land should be in good tilth, otherwise there is no difficulty in the culture.

The crop is cut with the cradle *before frost*, and should be raked very carefully in a dry day to avoid the dirt. A good way is to set up the gravels on the buts for drying, and to carry them to the floor and thresh immediately. The crop is liable to heat if stacked or packed closely in a mow. The grain requires thorough cleaning if it is to be eaten by human beings, but when that is attended to, and the grain is well floured, it furnishes cakes for winter use which many people do not know how to dispense with.

Buckwheat is perhaps the very best crop for sod ground to be had. We have known full crops to be obtained on such lands.—*Prairie Farmer.*

For the New England Farmer.

SUMMER AND AUTUMN APPLES.

Planting and grafting winter varieties of the apple has engaged the attention of farmers so extensively of late, that good summer and fall kinds are comparatively scarce in some sections and sell readily at a fair price.

Good baking sweetings are much called for, and every one who has an orchard should have a few trees of the best early and late varieties.

The early bough, the orange sweet, and Haskell sweet, are among the best kind; there are many others that might be mentioned, from which to make a selection; every one can exercise his own judgment in this matter; in general, we are more prone to raise too many kinds than too few. Of the acid and pleasant varieties, the Porter is one of the best for cooking and dessert, and is in use for a long time. The Gravenstien is a fine fruit of foreign origin, and is well adapted to this region. The Leland pippin, or New York spice, is a first-rate kind, worthy of extensive cultivation. Of the earlier kinds the red Astracan, early Williams, and others, might be named; the Williams requireshigh cultivation, and then produces beautiful and fine-flavored fruit. O. V. HILLS.

Leominster, June, 1853.

GERMAN AGRICULTURE.

Each German has his house, his orchard, his road-side trees, so laden with fruit, that if he did not carefully prop up and tie together, and in many places hold the boughs together with wooden clamps, they would be torn asunder by their own weight. He had his corn plot, his plot of mangold wurtzel, or hay, for potatoes, for hemp, &c. He is his own master, and he, therefore, and every branch of his family, have the strongest motive for constant exertion. You see the effect of this in his industry and his economy.

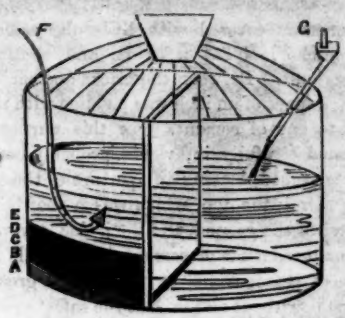
In Germany nothing is lost. The produce of the trees and the cows is carried to market; much fruit is dried for winter use. You see it lying in the sun to dry. You see strings of them hanging from their chamber windows in the sun. The cows are kept up for the greater part of the year, and every green thing is collected for them. Every little nook, where the grass grows by road-side, and brook, is carefully cut with the sickle, and carried home on the heads of the women and children in baskets, or tied in large cloths. Nothing of any kind that can possibly be made of any use, is lost; weeds, nettles, nay, the very goose grass which covers waste places, is cut and taken for the cows. You see the little children standing in the streets of the villages, in the streams which generally run down them, busy washing these weeds before they are given to the cattle.

They carefully collect the leaves of the marsh grass, carefully cut their potato tops for them, and even if other things fail, gather green leaves from the woodlands. One cannot help thinking continually of the enormous waste of such things in England—of the vast quantities of grass on banks, by road-sides, in the openings of plantations, in lanes, in church-yards, where grass from year to year springs and dies, but which, if carefully cut, would maintain many thousand cows for the poor.

To pursue still further this subject of German economy. The very cuttings of the vines are dried and preserved for winter fodder. The tops and refuse of hemp serve as bedding for the cows; nay, even the rough stalks of the poppies, after the heads have been gathered for oil, are saved, and all these are converted into manure for the land. When these are not sufficient, the children are sent into the woods to gather moss, and all our readers familiar with Germany will remember to have seen them coming homeward with large bundles of this on their heads. In autumn, the falling leaves are gathered and stacked for the same purpose. The fir cones, which with us lie and rot in the woods, are carefully collected and sold for lighting fires.

In short, the economy and care of the German peasants are an example to all Europe. They have for years, nay ages, been doing that, as it regards agricultural management, to which the British public is but just now beginning to open its eyes. Time, also, is as carefully economised as everything else. They are early risers, as may well be conceived, when the children, many of whom come from a considerable distance, are at school at six in the morning. As they tend their cattle or their swine, the knitting never ceases, and hence the quantities of stockings and other household things which they accumulate, are astonishing.—*Howitt.*

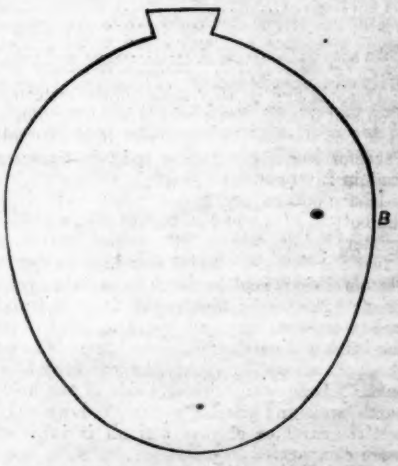
CISTERNS.



EXPLANATION OF FIG. 1.

G, is the pipe for conducting the water into the cistern; F, pump pipe, for drawing the filtered water; A, B, C, D, E, layers of charcoal, gravel and sand. The black square dots seen at the bottom of the partition are to admit the passage of the water from one part of the cistern to the other.

Every man who regards the comfort and convenience of his wife and daughters, will see that they are provided with plenty of soft water; and as we do not all have it in our wells, and have no flowing streams or limpid springs at our command, it becomes a question of some importance, how we shall obtain a plentiful supply in the cheapest and most convenient way. In most cases, we believe it may best be done by conducting the water from the roofs of the buildings into a cistern placed under ground, and there preserved for use as it may be required.



In ALLEN'S *American Farm Book* there are the outlines of two cisterns which are represented, with slight alterations, above.

The first, with a flat bottom, shows how the water may be filtered, so as to be fit for cooking purposes, or drinking. The explanation above will show the operation of the filtering materials.

Some years ago we constructed one to contain 5000 gallons, and had it built egg-shape, believing

it to be stronger, less liable to cave in or crack, and more easily cleansed than a flat bottom. The bottom was covered with hydraulic cement and the bricks laid flat upon it, and continued so throughout. Between the bricks and earth of the sides, a space of an inch was puddled with six parts sand to one of cement. For this purpose, clay, pounded carefully in, would probably be better. It was arched, leaving an aperture of the size of a flour barrel; the top, which was a foot below the surface of the ground, and the inside, covered with two or three coats of cement. The walls may be made of wood, stone, or brick, and a great many are made without either. But the safest and cheapest way, if a permanent cistern is desired, is to use stone or brick. Where the water is wanted for cooking, "the cistern should be permanently divided, as represented in fig. 1, into two apartments, one to receive the water, and another for a reservoir to contain such as is ready for use. Alternate layers of gravel, sand, and charcoal, at the bottom of the first, and sand and gravel in the last, are sufficient; the water being allowed to pass through the several layers mentioned, will be rendered perfectly free from all impurities."

In the last year's volume of the *Monthly Farmer*, Mr. DAVID BLAISDELL, of Amesbury, was kind enough to send us a table giving the contents of cisterns of different sizes, which we copy in connection with the engravings given above.

A cistern 3½ feet diameter will hold for every 10 inches in depth	59	gallons.
4 feet diameter	78	"
4½ "	99	"
5 "	122	"
5½ "	148	"
6 "	176	"

You will find by this table that a cistern 6 feet deep and 6 in diameter will hold 1260 gallons, and each foot you add in depth will hold 210 gallons. Therefore, one 10 feet deep and 6 in diameter will contain 2100 gallons.

I have one in my house cellar, entirely below the bottom of the cellar, 6½ feet deep and 5½ in diameter, holding about 1000 gallons. It was dug 6 feet 8 inches deep and 7 feet in diameter. The bottom being made smooth, was laid over with brick. The mason then began the side with brick laid in cement, leaving a space all round between the brick and earth about 5 inches. After raising the work about 18 inches, he carefully filled the space between the brick and side of the hole with earth, well and carefully pressed down. If you wet the earth or clay as you fill it in, it will be more compact.

When you get within about two feet of the top, commence gradually to draw in the work towards the centre, leaving, when finished, a space open about two feet across. The next thing is to plaster the inside with cement; also, the top on the outside, commencing where you began to draw in. About two course of brick are laid round the mouth of the cistern, forming a neck which adds to the strength of the top. Now cover the whole with earth except the neck. The water is conducted to my cistern through a small brick drain laid in cement. I also have a drain near the top, to let off the surplus water. If a cistern is made out of doors, it must be below the reach of frost. Lead pipe would probably be cheaper than brick, to conduct water to and from the cistern.

I have no doubt but that a cistern made this way of hard brick would last a century. Mine, holding 1000 gallons, cost $18,00. The larger the size, the less the cost in proportion to the capacity. If the earth is firm and hard, you may lay the brick close against it, thus saving the trouble of filling in and digging so large. I have known them made by cementing directly on the earth, using no brick, and covering the top with timbers or plank. One made with brick will cost more, but I think it best and cheapest, taking into consideration safety and durability.

We give the process below by which any one by figuring a little, may ascertain for himself the contents of any cistern:

To find the contents of any cistern in wine gallons, the diameter and depth being known:—

1. Multiply one-half the diameter by itself.

2. Multiply the above product by 3 1-7; which will give the area of the bottom of the cistern, *nearly*.

3. Multiply this by the number of feet in depth; this will give the cubic contents in feet.

4. Multiply the last product by 1728, (the number of cubic inches in a foot) which gives the number of cubic inches.

5. Divide the whole result by 231 (the number of cubic inches in the wine gallon) and the result will be the number of gallons in the cistern.

For the New England Farmer.

APPLE TREES.

MR. EDITOR:—Your correspondent M., hailing from Topsfield, can find a satisfactory answer to all his inquiries, about the produce of Baldwin apples, to wit, an average of more than five barrels to a tree, on 40 trees, in each of the years, 1850 and 1852, by calling on Mr. FRANCIS DODGE, on the summit of Ingersol's Hill, in Danvers. I know the facts as stated, because I saw the fruit, each year, when at maturity. All these trees were set on the borders of the field, about 12 feet distant from a high stone wall; and the ground about them was dressed with manure, and kept in a pulverized condition on the surface.

It is now about 25 years since the trees were set by JOHN ANDREWS, Esq., of Salem. P.

May 14, 1853.

For the New England Farmer.

ALMOST A ROOK'S EGG.

MR. EDITOR:—As I am a constant reader of your valuable paper, I have noticed that you are very accommodating in publishing articles that some might refuse, especially concerning fowls and their eggs—and it being rather natural for us to like to have as smart fowls as others, I send you the measure of an egg, laid a few days since by our Shanghai, a last fall chicken, which was eight inches round it the longest way; it seems rather a large story but is nevertheless true.

Lincoln, Vt., May 20, 1853. A. S. K.

For the New England Farmer.

HAWAIIAN AGRICULTURE.

MAKAWAO, MAUI LAND ISLANDS, March 28th, 1853.

GENTLEMEN:—About a year ago I addressed you, requesting the paper for my son, and giving you some items respecting the islands which I thought might interest you, and your readers. I also promised to communicate with you from time to time as I might have anything worth your hearing. I have delayed too long, and now hasten to prepare another communication.

Some months since, I forwarded you a *Polynesian*, our weekly newspaper printed at Honolulu. In this number you saw probably, a report on "wheat, corn, oats, and other grains," which I had the honor of presenting to the Royal Hawaiian Agricultural Society. If you had the patience to read this long report, you are informed of the history of wheat and grain growing on this group of islands. I am much mistaken if the fact that wheat can be raised at the Sandwich Islands, will not afford you pleasure. You will not despise the day of small things, but will bid us "God speed" in our efforts to produce our own flour and grains of other kinds. Allow me to tell you what we are doing to increase this important means of sustenance since the meeting of our society in June, 1852.

Judge LEE, our worthy President, in his address at the opening of the last meeting in speaking of our wheat at this place, remarked, that "Makawao now has the honor of owning the only threshing machine and flour mill on the islands." This is true, and though some 400 bushels of wheat were raised on my farm and soon after harvested and put into stacks, yet I am sorry that I cannot report more favorably of the results of wheat-growing and flour-manufacturing up to this date. The fact is, I depended upon a broken reed in the shape of a farmer. The threshing machine, a small one of the Albany manufacture, belongs to me; but my farmer who had taken my place for five years, owned the horse power. Being headstrong and self-sufficient, instead of consulting with a machinist in the neighborhood, and having things done properly, he went ahead and broke down ere the team had gone their round a single time.—He then went to work and constructed a wooden power, but after spending some 7 or 8 days in threshing 80 bushels, he gave it up, and sold out his part of the wheat and left my place. Ere he left, however, he undertook to grind some of his wheat in the flour mill. In this he did not succeed, but nearly ruined the mill, a small mill designed for domestic manufacture. The wheat remained in the stack, exposed to all our storms and to the ravages of rats and mice, till the gentleman who purchased the wheat visited San Francisco and purchased another power. We then, about the middle of January, threshed out our wheat, but found that much had been destroyed by the vermin and injured by the rains. The machine did not thresh clean, through some defect in making, so that we had much less wheat than we expected. I immediately commenced planting in drills, and continued to plant till the last of February. I then found that the weevil was devouring my wheat, and I finished it by sowing and harrowing it in as soon as possible. Some sixty bushels I thus committed to the bosom of the earth.—Mr. Gower, the owner of the other parts of the wheat, has sown some 90 or 100 bushels, and other neighbors have planted and sown some 20 or 30 bushels more. Mr. Gower has sent home for a flouring mill and designs to go into the business of manufacturing flour, corn, meal, &c., &c.

The weather seems to be favorable for wheat-growing, being rainy and cool. But we have our own trials. I had hoped we should escape the ravages of the pelua or cut worm, as I had seen scarcely a dozen in covering several acres of wheat as I did with my own hands. But no sooner had I finished sowing and harrowing in the wheat, than they appeared in great numbers and attacking it very young, so soon, indeed, as it began to peep from the ground; they have destroyed or nearly so, several acres. They take down other things such as squashes, melons, cucumbers, corn, &c.—This is a trial, I assure you, one which it requires much patience to endure, for though I think, on the whole, we have fewer destructive insects at the Islands than you have in the United States, for the pelua and weevil are nearly all which we fear—yet we have no means of repairing our loss. There is not a bushel of wheat left on all the Sandwich Islands. So that if half or all my wheat should be eaten down by the pelua, there is no remedy. So of all our seeds. I have about one hundred ears of corn, and a quart of beans, but I fear to plant any of these grains lest they be destroyed, and I lose all. So of garden seeds. Had we a seed store on Maui, I should experiment often. As it is, the thing is dangerous. Still there is hope in regard to Hawaiian agriculture. We have a committee on "worms and other injurious vermin," and though no light, or none of any consequence has yet been cast on the best means of destroying them, I am not without hope that something will yet be effected. I shall expect something important from the chairman of this committee, W. Newcomb, M. D., a scientific member—at our next meeting. I think that a place might be found some five miles from the top of the mountain back of my place, where garden seeds might be raised, and were I young and vigorous, I would try the experiment of a garden for that purpose. I shall keep the idea of such a garden before my mind and some one may be induced to take hold of the thing. Few of the garden seeds germinate on reaching the islands, hence the scarcity of New England vegetables. We seldom see a beet or a carrot or a turnip, and how much such vegetables would add to our comfort, I need not attempt to tell you.

But my dear friends, the editors of the *New England Farmer*, and ye friends who read the paper, you see on reading my report, that the great obstacle to success in agriculture lies back of all these difficulties. It may be found in the want of laborers. Farming is in low repute, and for aught I see, it is likely to be so. I cannot think of a single youth, if I except my own son, who thinks even of becoming a practical farmer. Some fathers tell of such and such a son—young and tender as yet, becoming a farmer *all in good time*. I have little confidence that any such thing will be realized, and for the obvious reason that all the sons of these fathers, so soon as they approach manhood, are either sent to the United States to acquire an education, or are allowed to go behind the counter, and devoted to the important work of

measuring tape and weighing sugar and nails.—So strong is this feeling among us, at the islands, that I am acquainted with a Christian mother, who declares that she would not consent that a daughter of hers should marry a farmer, because farmers' work is so dirty. And yet, we all see at the islands, that the nation is dying out and out, and the foreign community is suffering, commerce languishing, every thing and every body suffering, because scarcely no one is willing to cultivate the earth. The Hawaiian fields might "laugh with abundance;" but instead of this, they are fruitful in their own disgrace. Where there is one acre filled with vegetation and fruitfulness, there are hundreds lying uncultivated,—filled with thistles and noxious, or useless weeds. Do you ask what are foreigners now doing, since the crippling of commerce has closed so many stores, and then blighted the prospect of gain from this quarter? I will tell you, gentlemen, as I told the people in an address which I prepared for the chiefs and their subjects, persuading them to unite with us in our agricultural society. *Most of them are seeking to suck the breasts of government—dry though they are—while the mother earth shows her bosom full of nourishment and aching to be drawn, they turn from her with scorn.* Without a figure, nearly all, with the exception of a few planters, seek some easier, and as they seem to think, more honorable method of gaining a livelihood than by toiling, and drawing their support from the bosom of the earth. You can see at once that while public sentiment shall set in this direction, there is not much hope that we shall become an agricultural community. The Hawaiians are wonderfully imitative. Naturally indolent, they seem rejoiced to find examples of indolence among foreigners. And at present, the weight of influence is so strong on the side of *trade, barter*, which can be done on horseback, that the voice of the few who are willing to seize the plow and the hoe or spade and cry—"come on; toil and eat the fruits of the earth obtained by the sweat of the brow," I say the voice of such seems well nigh drowned in the clamor of voices which cry, "Hosanna to trade."

Still, I hope for better times, and that I may do something to usher in the day of Hawaiian agriculture. I am laboring both by precept and example, to make the cultivation of the earth—as I believe it to be, second to no business or profession, in genuine honor. With what success I may toil, remains to be seen. If spared, you shall hear. Yours, with esteem, J. S. GREEN.

For the New England Farmer.

PLOWS.

MR. EDITOR:—Dear Sir,—I have lately had on trial two plows of Ruggles, Nourse, Mason & Co.'s manufacture. I tried them on about four acres of green sward. Part of it was free from stones and the other was not. I had always supposed that the double plow would not work well unless the ground was free from stones. But I found it on trial otherwise. The front plow taking from three to four inches of the surface and turning it under, the back plow more easily flings out the stones, by the surface being turned under, and the plow keeps on in its course without breaking the furrow. I also tried the 73 1-2, which does the work admirably, if you wish for a flat furrow. It cuts a furrow fifteen inches wide and eight deep. But the difference between the two plows is this:—The double plow leaves the ground in an easy state of cultivation. It not only turns the surface underneath, but turns up four or five inches of mould, which cannot be obtained from the flat furrow by harrowing. And by going over it once with a light harrow prepares the ground for the reception of seed.

I think that Mr. KNOX, the pattern maker for Ruggles, Nourse, Mason & Co., has made great improvement on the Michigan double plow.

Respectfully yours, PETER FAY.

Southboro', May 25th, 1853.

For the New England Farmer.

BORERS—VARIETY OF.

S. BROWN, ESQ.:—A lady correspondent calls for an explanation of the borer, described by me in your March number, stating, that the one which I described is not among her acquaintances—I wish it was not among mine, as its depredations upon my trees have destroyed some of my fairest and best.

There are several worms of similar size, color and configuration, which may appropriately be called by the name of borer—among them may be reckoned, the common wood worm, which is found in such abundance in seasoned wood during its second summer. I have now before me two of this class, half an inch in length. The work of this kind commenced about a year since, upon a cord of wood, and such were their numbers and activity, that the bark now readily cleaves from the wood, they having entirely eaten the sap-wood immediately beneath the bark; they are now about one year old; how long they occupy in the round of their existence I am unable to say.

There is another kind of similar configuration, much larger, often two inches in length, and as large round as a pipe-stem, found in soft decayed wood. There is another kind called the sawyer or oak-pruner. These generally feed upon the sap-wood of oak branches, until, at length they eat into the centre of the limb, and finally cut it off, when the branch and the worm fall to the ground together.

Another kind called the peach tree borer, prevails to a considerable extent among us. The eggs of this insect are laid in the spring, and early summer, upon the peach tree very near the ground. When hatched, the maggot immediately eats its way within the bark, and feeds upon the bark and sap-wood, usually leaving the outer bark unbroken; its depredations are usually at or below the surface of the ground, and its presence may be detected by the flow of gum, mixed with its cuttings. I have never been able to prevent or destroy this insect, except by removing them from the tree. This may be easily done by first removing a few inches of earth around the tree, and then with a sharp pointed knife find the habitation of the worm, which is always in the sap-wood just under the bark. But of all the evils with which the fruit grower has to contend, the apple tree borer, which also attacks the quince, locust, ash, and some others, is the greatest. This is *the* borer of which I attempted to record the history, just as the borer itself has recorded it upon my apple trees; together with such observations as seemed to me migh

be useful to all such as had, like myself, unprofitably made *its acquaintance*. There are probably more of the family of borers than I have enumerated, but the last two produce the greatest injury, and especially the last *one*, which is the scourge of all our orchards and has by way of eminence, been called THE BORER. Its similarity to the peach tree borer is that the head of each is of the same color, as is also both the color and length of the body; but the dissimilarity is so striking, that a person of common observation would never mistake the one from the other. The head of the peach tree borer is rounder, resembling the head of the grey corn worm, or cut worm, while the head of the apple tree borer is small, protruding in a sharpish point from the body, which is thickest and largest and rather flattened where the head projects forth; the last is also more tapering towards the tail, and is entirely without legs or points upon which it walks, while the peach tree borer is furnished with sixteen pairs of points which serve it as legs.

The insect, which is the highest form of its existence, is still more dissimilar than is the worm. That producing the peach tree borer resembles a wasp, of a steel blue color, while that producing the apple tree borer is a beetle, striped with light brown and white. I have thus given an explanation or a key, to my former communication, which I hope may unlock some truth or lead to some action in arresting the progress of this destructive insect; for a beautiful, a healthy and productive orchard, is next in the scale of man's happiness, to a good, a virtuous, and an intelligent wife.

Yours, RICHARD C. STONE.

Sherburne, May 18, 1853.

A DAY WITH THE "GREAT PLOW."

OLIVER M. WHIPPLE, Esq., of Lowell has long been an advocate for *deep plowing*,

"And, strange to tell, has practiced what he preached."

On Friday, the 21st May, we had the pleasure of witnessing his operations in the company of several gentlemen, two or three of whom were plow manufacturers. Ten years ago the field had been plowed twelve inches deep, manured, planted, well cultivated one or two seasons, and laid down to grass. For two or three years a heavy crop of grass was cut, which decreased in amount until the last season when about a ton to the acre was obtained. The soil is a sandy loam, and when turned up ten years ago was yellow, with the exception of two or three inches on the surface. On turning it over now, eight inches was found to be a fine, black, and apparently rich soil.

The plow used was one of RUGGLES, NOURSE, MASON & Co.'s Eagle, 77. It cut a furrow twelve inches deep, and occasionally where every thing was favorable, thirteen inches, and eighteen inches wide, laying it over in an angling position, so as to hide all the grass, and leaving a ridge of broken, loose soil, more than ten inches in depth. Here was an opportunity for the roots of plants to ramble, luxuriate and feed, that we never saw surpassed. Each place from which a furrow had been removed formed a ditch twelve inches deep and eighteen inches wide; so that with such a plow, and a strong and steady team, a great amount of ditching might be accomplished in a day by passing through the furrow-trough a second time with a smaller plow, constructed in such a manner as to throw a considerable portion of the earth to the surface.

Mr. WHIPPLE's opinion is, that we should not wait to accumulate large quantities of manures before "breaking up;" and particularly in regard to old pastures. His practice is to turn the sward under twelve inches, roll, then thoroughly pulverize with plow, cultivator or harrow, until the whole is reduced to a fine tilth. On passing over a field just treated in this manner, we found it somewhat difficult to find the grass, so deep, and compactly had it been placed away.

A strong evidence of the benefit of deep plowing was afforded in the mass of grass roots which were found on the inverted furrow; they had penetrated lower, even, than the twelve inches turned up, and were exceedingly numerous. In such a soil a drought, unless very severe, would scarcely affect the crop.

We believe all were gratified who beheld the exhibition, and will be induced to recommend to others the practice under which Mr. WHIPPLE has been so successful.

LIVE AND DEAD WEIGHT OF CATTLE.

Salesmen commonly calculate that the dead weight is one-half of what the animal weighs when alive; but the butcher knows that the produce is greater; it often approaches to three-fifths; and by an extensive stock bailiff of the late Mr. Curwen, it was found that the dead weight amounted to fifty-five per cent. of the live. But the amount differs strangely, as may be seen by the following statement of Mr. Ferguson, of Woodhill, Canada West:

	Live Weight.		*Dead Weight.*		*Tallow.*	
	St.	*Lbs.*	*St.*	*Lbs.*	*St.*	*Lbs.*
Aberdeenshire ox,	132	11	84	6	16	5
Short horned ox,	132	0	90	1	14	0
Short horned heifer,	120	4	77	9	15	8
Short horned steer,	120	5	67	7	14	12

British Husbandry, vol. 1, p. 392.

The subject of live and dead weight of cattle being one that deeply interests farmers, we again call attention to the subject, in the hope that it may awaken inquiry, as to the question what should be the rule of paying the farmer, for beef he may have grown! It costs him quite as much to grow hide and tallow, as it does muscle or flesh, and we should like to know, why he should not be paid for so doing!—*Ed. Am. Farmer.*

In continuation of this subject, we make the following extracts from Colman's Massachusetts Report:

"In New York, only four quarters are made by the slaughterer, and the hide and tallow are not reckoned in the price: facts which are to be remembered in making comparisons of prices in the different markets."

"The following are some examples of live and

dead weights of New England cattle killed at home, and after being driven from Connecticut river to Brighton, the Boston beef market, a distance of 75 or 80 miles:

Example 1.—One ox live weight in market, 2,393 lbs.; quarters weighed 418 lbs., 415 lbs., 324 lbs., 331 lbs.; hide, 150 lbs.; tallow 173 lbs.—1,811.

Difference, 582 lbs.

Example 2.—Two oxen of A. S., killed at home, weighed as follows:

Live.	*Killed.*
1,979 lbs.	1,400 lbs.
1,910 lbs.	1,341 lbs.

About 294 lbs. loss on a hundred of the live weight.

Example 3.—An ox weighing on Connecticut river 2,250 lbs., weighed in market, 1,472 lbs. Loss, 778 lbs.

Example 4.—An ox weighing as above, 2,255 lbs., weighed in market 1,487 lbs. Loss, 768 lbs.

Example 5.—A fat bull, of D. S., killed at home, and weighed alive 1,495 lbs.; dead, 1,051. Loss, 544 lbs.—*Stock Register.*

For the New England Farmer.

"EXPERIMENTAL FARMING" AGAIN.

MESSRS. EDITORS:—Your correspondent J., of Bridgewater, in the *N. E. Farmer*, April 30th, criticises the communication "Experimental Farming" with a "home thrust," and makes a pass at my friend, S. F., of Winchester, but the armor of S. F. is so well adjusted in every part, that the effort is as vain as chemical analyses are fallible.

How Mr. J. is going to defend himself in his "opinion," and by his spirit of "controversy," against the results of the experiments of our best practical chemists, I have yet to learn. I advise every farmer to read the communication of S. F., of Winchester, in the *N. E. Farmer*, No. 3, for March, 1853, page 125, caption, "Analyses of Soils." If such men as Professor's Norton, Hitchcock, Liebig, and others, have acknowledged the imperfections of chemical analyses of soils as applicable to practical purposes in agriculture, how can Mr. J. make us believe that we are behind the times, beyond telescopic reach, or does he suppose we are to swallow down the reports of chemists, good or bad, as infallible, for genuine science, at "first sight," without an emollient to lubricate the way? Is it not only very possible but very probable, that the instance of augmented crops, related by Professor Mapes, might have been owing partially, if not wholly, to a more careful cultivation, or a more favorable season, or both combined? I have but little faith in reports of that kind where no responsible names are given. I have repeatedly raised double the quantity of produce on an acre one season I could get on another, soil and treatment being equal; the result of one year's trial of a particular ingredient, as manure, would not satisfy the most of us, as it would not allow time enough for a fair experiment, and if Mr. J. concludes that because Mr. none of us know who, raised large crops after having his soil analyzed, that we can do the same here, he must "jump at conclusions" wonderfully, considering that as much depends upon a favorable season as upon the quantity and quality of the manure applied to the land.

I did suppose that the surface soil was very much dependent upon the subsoil for its fertility, till I have been better taught by my friend J. in his *surface* reasoning. I believe in many instances we can form a better opinion by examining the subsoil, what the surface soil requires to fertilize it, than a chemist would be likely to do by analyzing the surface soil. Experience has taught us that clay applied to the surface of a quicksand subsoil was a proper application, but no experienced farmer would apply it to an argillaceous foundation.

If my friend J. can make an accurate estimate by "figures" how much more ground will produce by being analyzed, he must be the greatest mathematical juggler of the age.

If farmers are to be governed by the dictation of chemists of doubtful skill, they must be forced into a labyrinth of uncertainties quite as perplexing as the old system of composting and experimenting. I am in favor of chemical analyzation of soils for all who are disposed to go into it, and think that good may come out of it; but by the reports of our most able chemists themselves, of the uncertainty of deciding accurately enough to give positive practical directions, and considering the great variety of surface soils on our farms in New England, I feel but little confidence in the application of the science to my land, thinking to be remunerated for my labor and expense, but I hope my friend J. will engage in the practical analysis of his soil with a zeal becoming "a man of science," and with that success which his enterprise shall deserve, and be able to enlighten us who are *behind the times* by giving us good practical demonstrations. SILAS BROWN.

Wilmington, May 10, 1853.

For the New England Farmer.

PLASTER, ASHES, &C.

There seems to be nearly as many opinions in regard to the value of plaster, as there are people; and it is not strange that such is the case,—for while some soils are benefited from its use, others appear to receive no advantage whatever. Until within a few years I have had no faith in applying it to any soil. But for three years past, I must acknowledge that I have been materially benefited by using it on potatoes, planted on light, sandy land. I have very little faith in making use of it on other soils. But my candid opinion is, that it will pay for the farmer to purchase plaster at present prices to put on potatoes, where they are planted on a soil of dry, sandy loam. Last spring, I plowed up a piece of land in a worn-out pasture, which grew nothing but sweet-fern and whortleberry bushes, and planted the same to potatoes, (potatoes too small to sell in market) and used a small handful of plaster in the hill at planting, and the same at hoeing,—and I had the largest yield of potatoes and of the best quality that I have raised for several years.

I have experimented some with ashes, and am of the opinion that unleached ashes have but very little effect when applied to corn hills at hoeing time. I was in the habit several years ago, of carefully saving all my wood ashes to put on my corn, and thought the while I was getting well paid for the operation; but on bringing the matter to the test (putting ashes on some rows, and leaving them off on others, side by side,) I was ful-

ly convinced it did not "pay." Leached ashes spread on broadcast, are of far greater value.—But the best way to treat one's ashes taken from the stove or fire-place, is to empty them into the hen-roost; and with the addition of plenty of sandy loam, mixed, as of course it will be, with the droppings from the hens, a good "home-made guano" is manufactured, which when rightly applied to the corn-field pays the farmer well for his trouble. From a flock of thirty fowls, a half cord of *good* manure may be easily made; and it will be equal in *value* to one cord of manure commonly purchased at stables. By throwing ashes into the hen-roost, a two-fold benefit is derived; it not only adds greatly to the manure heap, but acts as an excellent preventive against lice. Nothing is a surer remedy to destroy barn-lice, than ashes and sand. Fowls will soon rid themselves of lice if they have free access to those ingredients.

A. Todd.

Smithfield, R. I., 8th mo., 1853.

ACTION OF THE ATMOSPHERE ON THE ROOTS OF PLANTS.

It is necessary that air should have access to the roots of plants, as much as possible. The admission of air to the roots is necessary to the growth of the plant, and to the germination of the seed. The oxygen of the air, in combination with carbon, forms carbonic acid, which is an agent at once of communicating vital heat and aliment to the plant. This necessity of the admission of air to the seeds and roots of plants, suggests to the farmer two conditions necessary to be observed in cultivation. First, seeds should not be planted too deep. If they are so far below the surface of the earth that the air cannot reach them, there can be no germination. It has been found by experiment that potatoes planted more than three inches below the surface will not grow; but where covered by turfs or light substances, they may germinate. The other condition is that the earth should be loose over the roots. For obtaining this result, if the soil is not naturally loose and open, but clayey and stiff, deep plowing is necessary, and loosening the soil as much as possible. It is for this reason particularly that a clayey soil is inferior to all other. To bring this kind of soil to a proper consistence to admit the air, it is well to temper it by admixture with sand.

In plowing clay lands the furrow should not be entirely inverted, that is, thrown over flat, because that would leave it too compact. But if turned with a plow that will cut a furrow seven inches deep, ten inches wide, and turn it up, leaving it at an angle of forty-five degrees, something like the roof of a house, then the air will be admitted and the whole mass will become lighter. In this mode of plowing, all the grass is covered in, leaving an edge of the soil nearly seven inches thick for the harrow to pulverize into a pleasant and productive tilth.

When once in good condition, clay lands will yield fine crops of grass for many years, with the application only of a little annual top dressing.

The action of decaying vegetable matter, as dead leaves and vegetable mould about the roots of trees, is to give out carbonic acid. If the soil is loose the tree will profit by this, and take up by its roots the carbonic acid evolved. But if there is a stiff bed of clay between the dead matter and the roots, the tree will be prevented from taking up the carbonic acid, and no benefit will be received. From this knowledge the farmer will at once see the advantage of keeping the soil light about the roots of trees, which he wishes to preserve in health and vigor.

A similar operation goes on also in the roots of the grass, corn, and other plants; so that it becomes a matter of importance to keep the soil always light and porous wherever we cultivate.

For the New England Farmer.

STATE PAUPER FARM.

Mr. Editor:—Being in the vicinity of the State Pauper Farm, in Tewksbury, a few days since, I availed myself of the opportunity to go on to the ground, and take a hasty view of the premises. The institution stands upon a gentle swell of land, about half a mile east of the centre of the town. The building is of wood, three stories high. The centre of the main building is to be four stories. The walls of the western wing are up and covered in; the sills, floor timbers and first floor of the centre and eastern wing are laid, and ready to receive the walls, which are nearly ready to be raised. The building stands upon the northern declivity of the hill, and the main front has a northerly aspect. The ground descends gently from the buildings on three sides; on the other side it continues to ascend some thirty or more rods, but I think does not attain sufficient elevation to furnish a supply of water to the upper stories of the building; nor is there any hill in the vicinity from which water can be readily obtained. It is very desirable that this indispensable article should be furnished by an aqueduct, in unfailing abundance. The convenience of this has been demonstrated at the Asylum at Worcester, and at several other public institutions in the country. So desirable is this that the Cochituate has been carried from Boston to the McLean Asylum, at great expense. Where an aqueduct cannot be laid, the forcing pump must be resorted to, by which, with great labor, a scanty supply may be obtained. The barn is erected, and stands at a suitable distance from the house. I think it is not a model barn. The cellar extends the whole length, but only two-thirds of the width, and in the very part where a cellar is most wanted, there is none at all. The posts I should judge to be 24 or 25 feet high. It will take a very long pitch-fork, and very strong arms to reach the high beams. It is heavily timbered, and appears to be well built.

I understood from one of the workmen, who appeared to be an intelligent man, and who showed me the plans, that the original contract required the building to be completed in October, but that

so many alterations had been made that he thought the snow would fly before it was done. The building stands near the centre of a beautiful flat of ground, containing some forty acres, a portion of which—that which ascends to the southward and eastward—is covered with bushes and scrub oaks. Here is a fine location for an orchard, after sufficient labor shall have been expended upon it. The remainder of the flat, after deducting some ten or twelve acres for avenues and a lawn, may be converted into a beautiful garden for the production of vegetables for the establishment. The soil is good and contains but few stones, and with proper cultivation may be rendered productive. At the foot of the hill, and across the road leading from the meeting-house to the railroad junction, the soil is light and sandy, as is most of the land in that section of the town. It bears good rye, and with a good deal of manure of the right sort may yield tolerable crops of corn. There is some pasture land upon the hill to the southeast of the house. From the front of the house there is an extensive prospect to the north and northeast of the range of broken highlands that extend along the course of the Merrimack, constituting the southern side of its basin, from the mouth of the Concord river to the city of Lawrence, and of North Tewksbury, which lies upon this range. This village has much increased within a few years. It contains several fine farms, and a very pretty church. The farm, I think, should the house be filled to its entire capacity, can do but little towards sustaining the inmates. It may yield garden vegetables, potatoes, and milk. The surrounding country finds a ready market at Lowell and Lawrence, which are but a few miles distant. Boston market must be the ultimate resort for flour, grain, pork and beef. If the good people of this state are expecting that the farm will contribute in any important degree to sustain the establishment, they will be sadly disappointed. Its support must obviously be drawn from the State Treasury and not from the soil. There are upon the farm some ten or more old apple trees, and with this exception it is very bare of trees. Every thing is to be done to get the farm into proper shape. Fences are to be built, fields to be laid out, avenues to be constructed, drains to be dug, trees to be set out, and years of patient labor to be performed in order to develope the capabilities of the farm, and produce any satisfactory results. The constant changes to which the force by which all this is to be accomplished will be subject, must increase exceedingly the difficulty of its accomplishment. By the time a raw hand is so trained that he can understand the directions given him, he will be off, and one still more raw be put in his place. Any practical man who has attempted to carry on labor by such hands, will readily comprehend the difficulties attending it. But perseverance overcomes all things, and in the lapse of years will convert this into a beautiful establishment, which will not only illustrate the liberality of the State to the needy and homeless, but also the good taste and judgment of those who have had the management of its concerns. Yours, &c., J. R.

Concord, May 19.

☞ Agriculture, like the leader of Israel, strikes the rock—the waters flow, and the famished people are satisfied.

CIRCULATION OF SAP—VEGETABLE ECONOMY.

The circulation of sap in plants has much analogy to the circulation of the blood in man. This is especially true in regard to the action of the leaves upon the sap, and its subsequent altered quality. In the ascent of the sap from the root before it reaches the leaf, it is elevated in the same manner as oil rises in the wick of a lamp. The leaves receive it and throw off an immense amount by evaporation. In this way there is a constant corresponding action between the root which draws the water from the earth, and the leaf by which it is exhaled. But the leaf also takes in water as well as the root. The most important function of the leaf, however, is that which transforms a portion of the water or ascending sap into the peculiar juices of the plant, and sends it back again, circulating it through the vegetable system in a new form; much as the lungs change the venous blood into arterial. This sap, after passing thus through the leaves, parting there with some carbonic acid, and receiving other elements from the air, becomes invested with a new character. In some plants whose ascending sap is poisonous, the descending sap, or matter contained in it, is highly nutritious. And it becomes also elaborated into those special secretions known to us in the form of gum, sugar, starch, gluten, oil, tannin, turpentine, wax, coloring matters, narcotic, astringent, fragrant and acid properties, and the various products of different plants which are nutritive, medicinal, useful in the arts, or destructive to life.

For the New England Farmer.

ORCHARDS.

MR. BROWN:—The *Tree Fever*, which usually prevails about this season, has been a little more violent this year than ever before. Trees by loads have been removed from the close companionship of the nursery, to scattered situations in remote fields. I sometimes send a thought after those I have slowly reared from the seed, and wonder how they fare in their new localities. Alas! sir, that I hear occasionally of failure and disappointment. I am not surprised by it. I only am when I hear of young trees doing well under circumstances the most unfavorable.

I have done a little, perhaps, to induce others to plant orchards, honestly believing by so doing that they would immediately add value to their acres. But it has happened that the imperfect manner in which the work has been done, has soon discouraged those who had too little faith at best.

Orchards are planted every year without due consideration. It is a matter of some importance to the cultivator that he start right in a work which will absorb time and capital for years, and yield a return exactly in proportion to the judicious application of his labors.

With some exceptions will he do better than to select the comparatively level slope south of his buildings for his orchards. Here the north winds

will be broken. The land lying near the house is easily overlooked and tilled. "A walk in the orchard" will become a pleasure the whole family may often and conveniently enjoy.

I prefer ground that is level for an orchard, to that which is uneven; principally for this reason,—the greater ease of cultivation. By frequent plowing among trees on a side hill, ridges are produced which are a damage to the land. Heavy rains, also, wash the soil down from the top to the valley, where it accumulates to an unprofitable depth. The team-work on hilly ground is great, and fatiguing. It is economy to have as little such as possible.

It will be understood, that I suppose the orchard to be plowed and cultivated every year.—To be sure, I believe in no other system. You must take care of your trees as you would of your corn and potatoes. Clear cultivation with these crops, all allow is necessary. The idea that young trees will ever grow in a tough green sward is an absurdity. Therefore, I would plant the orchard with something—low-hoed crops nearest the rows are the best—every year. Some plant a few potatoes around their trees. "It keeps the land loose," they say. This is sheer nonsense, and a bad practice. Such seem afraid the trees will have too good a chance. What they gain in the few potatoes—which in fact is no gain, being so scattered—is doubly lost to the tree.

I will add to these suggestions a paragraph from *Cole's American Fruit Book*. That Mr. JONES knows how to obtain a generous return from his orchard, it is by being generous to it himself.

"Mr. MOSES JONES, of Brookline, in this vicinity, a most skilful cultivator, set 112 apple trees, two rods apart, and peach trees between both ways.—The eighth year, he had 228 barrels of apples, and in a few years from setting the trees, $400 worth of peaches in a single year; and the best part of the story is, that large crops of vegetables were raised upon the same land, nearly paying for the manure and labor. The tenth year from setting, many of the apple trees produced four or five barrels each." W. D. B.

Concord, Mass., May, 1853.

HAWAIIAN AGRICULTURE.

The reader will find an interesting letter in another column, on the subject of agriculture at the Sandwich Islands. He will find, too, that the same prejudices exist there against honest toil, that are to be found among us here. We thank our correspondent for the interesting letters he furnishes, and for the hearty interest he feels in the noble pursuit of that calling, which, if any can, will elevate the human race and lead it on to the highest enjoyments and dignity it is capable of achieving here. He must not be disheartened. If the seed he casts to the earth fail to spring up and grow, that which he is sowing by his excellent examples *will not fail*, but increase an hundred fold!

As the native population dwindles away, that great resting-place in the highway of nations must be peopled by a more active race, in order to supply the demands which the commerce of the world will make upon it. Agriculture will flourish, because the demand for its products will be incessant, and then the good seed of our friend will spring up, cover the islands with beautiful fields of corn and grain, trees, vegetables, and all manner of fruits and flowers. May he live to behold a still greater change than this, springing from his noble efforts.

☞ Will he inform us in what manner we can occasionally send him such books and periodicals as we may think would be useful and interesting to him in his extensive field of practice and observation?

A CHAPTER FOR NICE OLD FARMERS.

Can any body tell why country people so universally and pertinaciously persist in living in the *rear of the house*? Can any body tell why the front door and windows are never opened, save on the 4th of July and at Thanksgiving time? Why Zedekiah, and Timothy, and Jonathan, and the old farmer himself, must go *round* the house, in order to get *into* it? why the whole family (oblivious of six empty rooms,) take their "vapor bath," and their meals, simultaneously, in the vicinity of a red hot cooking range, in the dog days? Why the village artist need paint the roof, and spout, and window frames bright crimson, and the doors the color of a mermaid's tresses? Why the detestable sun-flower (which I can never forgive "Tom Moore" for noticing) must always flaunt in the garden? Why the ungraceful prim poplar, fit emblem of a stiff old bachelor, is preferred to the swaying elm, or drooping willow, or majestic horse-chestnut?

I should like to pull down the green paper window-curtains, and hang up some of snowy muslin. I should like to throw wide open the hall door, and let the south wind play through. I should like to go out in the woods, and collect fresh, sweet, wild flowers to arrange in a vase, in place of those defunct dried grasses, and old maid "everlastings." I should like to show Zedekiah how to nail together some bits of board for an embryo lounge; I should like to stuff it with cotton, and cover it with a neat "patch." I should like to cushion the chairs after the same fashion. Then I should like, when the white-haired old farmer came panting up the road at twelve o'clock, with his scythe hanging over his arm, to usher him into that cool, comfortable room; set his bowl of bread and milk before him, and after he had discussed it, coax him (instead of tilting back on the hind legs of a hard chair) to take a ten minutes' nap on my "model" sofa, while I kept my eye on the clouds, to see that no thunder shower played the mischief with his hay.

I should like to place a few common sense, practical books on the table, with some of our fine daily and weekly papers. You may smile; but these inducements, and the comfortable and pleasant air of the apartment would bring the family oftener together after the day's toil; by degrees they would lift the covers of the books, and turn over the newspapers. Constant interchange of thought, feeling and opinion, with discussions of the important and engrossing questions of the day, would of course necessarily follow.

The village tavern-keeper would probably frown upon it; but I will venture to predict for the inmates of the farm-house a growing love for home, and an added air of intelligence and refinement, of which they themselves might possibly be unconscious.—*Fanny Fern—Olive Branch.*

For the New England Farmer.

CRUELTY TO ANIMALS.

I would not enter on my list of friends,
(Though graced with polished manners and fine sense,
Yet wanting sensibility,) the man
Who needlessly sets *foot* upon a worm.—*Cowper.*

He who knowingly would injure the harmless creatures God has made, can have little feeling for human kind. Injury to creatures may sometimes be done by accident, or through necessity. Such acts "incur no blame." But he, who, for the sake of gratifying his own passions, cruelly treats those animals God has placed here for the benefit and service of man, is justly deserving no claims to humanity. It is not the man who beats with a goad his ox or his horse, that may be called the most cruel or unmerciful; for he who neglects to provide for the comfort and health of his dumb creatures is equally censurable. But in most cases it is pretty true that he who is guilty of the one act, is equally guilty of the other. I have reason to believe, however, that a greater degree of kindness is shown towards dumb animals now, than formerly—that less beating and bruising is resorted to in the training of young horses or oxen; yet there are many who still adhere to former customs, although late discoveries and observations prove that gentle means and mild measures may be more *satisfactorily* used towards subduing the brute creation. The "whip for the horse" will be but frequently used if the hand that plies it is associated with a kind and feeling heart. However great a reformation *has* been made in the mode of training animals to service, too harsh measures are still used.

The horse, the most noble of all amimals used by man, is the most cruelly treated. Even in the present state of civilization, I presume not one horse in five is treated in such a manner as that he lives out the term of his natural life. My opinion is, that if this animal were properly cared for, and kindly treated, he would be in as fit condition to labor, at the age of twenty, as he now is, with present treatment, at twelve. Very few horses at the present day ever arrive at the latter age in good condition, with soundness in body and limb. Hard labor and improper care render him unfit for service at an early age. The constitution of the horse is very similar to the constitution of man, hence, the former is no more fitted to bear excessive labor and unkind treatment, than the latter. It is as injurious to the constitution of the horse to keep him at labor in stormy weather, as it is injurious to man; hence it is as necessary for a teamster (if he would provide for the health and comfort of his team,) to use the same care for them, that he does for himself.

There is one cruel act of which too many are guilty, and about which I cannot forbear speaking. I have reference to the practice of putting off horses which have become unfit for service, in consequence of old age, to cruel and inhuman persons. Although horses thus put off have served their masters faithfully, and doubly paid, perhaps, for all they have ever received, yet still, for the sake of a few paltry dollars, they are sold to those who will cruelly treat them to the last moments of their existence. It appears to me that the man who will *thus* part with his horse, is as virtually cruel, as he who abuses him after he has him in his possession. Is it not more an act of mercy to take the life outright, of a worn out beast, than to dispose of him to an individual who will kill by degrees?

I have never been the owner of but one horse, and although he is considerably on the down-hill side of life, money would not tempt me to part with him, unless I felt sure he was going into the hands of a merciful man. I have respect for the aged; and verily kindness is actually due those animals whose services are so beneficial to mankind.

Who would see an aged father or mother (whose lives had been spent for their children) turned off with hard usage and unkind treatment, because the infirmities of age had rendered them unfit for service? Of course the kinder treatment is their due, in consideration of what they have been, and what they have done.

Cruelty to animals, is a subject deserving especial attention. Parents ought to make it a point of duty to train their children to be merciful to animals, as well as to human kind. If this were more generally done, certain it is there would not be so many unfeeling and cruel men. The boy who is suffered to grow up with the privilege of inflicting pain upon every animal that comes in his way, is pretty sure to be a cruel and hard master, over whom and whatever he has the control.

"Mercy to him that shows it, is the rule
And righteous limitation of its act,
By which heaven moves in pard'ning guilty man;
And he that shows none, being ripe in years,
And conscious of the outrage he commits,
Shall seek it and not find it in his turn."

A. TODD.

Smithfield, R. I., 2nd Mo., 1853.

For the New England Farmer.

GRAFTING OLD TREES.

MESSRS. EDITORS:—I have had some experience in *grafting*, and propose to give you my method of grafting old trees. I select such limbs as are thrifty and of a proper size, preferring those not exceeding one-half inch in diameter. If the stock is not too large, I splice graft—if one-half inch or more in diameter, I prefer cleft grafting. I set but one scion and scarfe off on the opposite side. I use composition without either matting or cloth, and consider it better than either, if it is a good article. With proper care and attention, old trees may be made to yield a handsome profit sooner than young trees from nurseries. I have formed handsome tops on trees with scarcely any signs of life, by thoroughly trimming and scraping, grafting and washing with soap suds.

S. E. HOOKER.

Poultney, Vt., April 5, 1853.

☞ To feed an ox to one thousand two hundred pounds weight, usually takes five years; while the same weight of poultry can be made ready for the table in about three months, and at less than half the cost in food. So says an English poulterer.

For the New England Farmer.

DIVERSITY IN THEORY AND PRACTICE.

Mr. Editor:—I have often wondered why it is, that in the business of agriculture, there should exist among farmers such a *chaos of theory and practice*. It is difficult to find two farmers who agree in hardly any two of the practical operations of their pursuit. And if a novice in the business should judge from the various and contradictory theories, and statements, and variety of results from experiments, he would come to the conclusion that the science, (or rather the *business*, of agriculture, for science it could not be called,) was as inexplicable as the hidden springs of life and thought.

Modern, intelligent farmers say, "*plow deep*," but much of the wisdom of long experience says, no! unless you want to ruin your land. One farmer says, top dress your highland grass ground, but the *thinking*, *calculating* farmer says no,—cultivate no more land than can be kept in good heart by plowing in, during tillage, a sufficient quantity of the right kind of food for plants, to support whatever crops may be anticipated, till the proper time arrives for again disturbing the soil Compost your manure, says one; nonsense, says another, it's time and labor lost. Just as though you can make manure of loam, muck, sand and such trash; there is your manure, and you cannot make any more of it by adding a heap of worthless stuff. One farmer says a good cellar is an indispensable appendage to a barn for economy in the preservation and manufacture of manure! Fudge! says another, barn cellars are more outsets than income. Cut your fodder for your cattle as well as for yourself, says the economic farmer; absurd, says the objector, to suppose that cutting increases the nutritive properties of hay; there is a certain amount of nourishment in a pound of hay, cut or uncut—therefore cutting is labor lost. I might go on and write page after page of such contradictory theories and practices without exhausting their number, but it is needless, they will suggest themselves to every farmer.

Now what I wish to inquire is, whence comes this confusion of ideas? this variance in men's experience? Are there no *settled* principles in agriculture on which we can rely for guidance? Is success in its pursuit so much a matter of *chance*, that we can establish *nothing as certain* in relation to it! Such would be our conclusions certainly, were we to give credit to all the opinions of farmers in relation to their avocation. Mere opinions in relation to the practical part of other sciences, are not permitted to occupy the doubtful position of *theories*, generation after generation, but are either soon exploded, or are reared into the dignity of *facts*, and are then at least, adopted by those whose interests are involved, but its not so. As a general thing with farmers, one man attempts to verify the theory of *deep plowing*, and with no regard to circumstances or conditions, he turns up the subsoil of an already starving, exhausted top soil, manures with his accustomed sparing hand, and then discards *deep plowing* because he gets poorly paid for his *ill devised experiment*. Another man tries the advantage of compost manure, he applies it sparingly to a lean soil, plowed with a skinning hand to a depth of three or four inches; a drought ensues and he obtains an indifferent crop, and forthwith concludes there is but little virtue in compost manure. Again, another farmer at considerable expense provides a cellar to his barn, but neglects to supply it with loam, muck, or sand to soak up the liquids, and absorb and fix the ammonia of the manure; hauls the fermenting heap out in February or March, dumps it in small heaps upon his field, where the searching winds, scorching suns and drenching rains of spring extract the largest portion of its fertilizing properties, and then concludes that barn cellars are more cost than profit. Once again, and the plodder on attempts to verify the profit of chopped fodder for his cattle—but he commences without the requisite knowledge of how much *unchopped* fodder is necessary to satisfy the demands of his stock at certain seasons and temperatures, tries the thing for a few days; finds *some work in it*—which to avoid, he concludes there is no gain, but a loss in time and labor, and straitway gives it up as a new fangled notion of amateur farmers. In this blind and indolent manner do hundreds of farmers lose the advantage of many modern improvements in agriculture. I say blind, because circumstances and conditions are not sufficiently taken cognizance of; and I say *indolent*, because "*nothing that is truly valuable can be obtained without labor and pains.*"

Chemists could never have developed many valuable resources of nature had they not applied the closest scrutiny and most untiring perseverance in watching and testing the nice conditions and adaptation of circumstances which nature requires for her wondrous operations. A like patient energy is demanded at the hands of the farmer—energy of mind to think—*and think profoundly*, as well as of the *will to do*. To render his experience of value, he must analyze facts, compare results, and note, if possible, the conditions necessary to success in every experiment. Nothing would aid the farmer in these pursuits, in my humble judgment, more than the formation of *Social Clubs* or *Agricultural Lyceums*. They would afford an opportunity to every farmer in a town, to make a profitable exchange of his experience for that of others. Nor is the advantage of such social gatherings confined to the acquisition of knowledge to aid merely in material gain. They serve to disseminate an interest in all matters calculated to advance the moral and intellectual well-being of a community. They serve to awaken and nourish those kind and generous feelings which render life agreeable and lightens toil of more than half its burdens. County Agricultural Societies are unquestionably doing good service, but their influence is not of that direct character, that is needed for practical advancement amongst the whole body of farmers. They serve to exhibit the results of *successful* effort, rather than point out the errors in *unsuccessful* experiments. Active Town Societies are needed not only for their direct and immediate influence on the agriculture of the town, but for the important aid they would afford to the usefulness of the County Associations, by awakening an increased interest in every department of husbandry; and thereby greatly augmenting the number of competitors for premium productions. There are many Town Societies already, but it is feared they are too generally in a dormant state. It

strikes me that these might be brought into a more active condition, and new ones created, if the State Society should issue circulars to every Agricultural town in the State inviting the attention of its farmers to the subject, and requesting such returns, either to the State or County Society, as would insure life and activity. If these suggestions are of any worth, I hope you, Mr. Editor, or some of your correspondents, who are better qualified than myself, will enlarge upon them and set them forth in order. T. A. S.

Westboro', May, 1853.

THE TRUE MODE OF CULTIVATION.

MR. EDITOR:—I was much interested in the remarks of my friend T. A., in your last paper. He is an intelligent, public spirited man. He has within a few years removed from the sea-shore, and engaged in the cultivation of the soil, and his own farm is showing the effect of energy directed by intelligence. He wants to see all the farms around him cultivated in the best manner, and carried to their maximum of productiveness. I perceive that he has got hold of the true idea of farming, viz., that it costs no more to carry on a farm in a high state of cultivation, in which it shall yield a large crop of the most profitable kind, than it does to carry on one which shall yield but half a crop, and that of but little value. I am glad he has called the attention of the public to the subject of the proper cultivation of the State farms.

You will recollect that in a conversation I had with you a few days ago, I mentioned the idea of the proper laying out and cultivating the State Pauper farms, which the government is now preparing for the reception of foreign paupers. Were suitable men placed in the office of superintendents of those farms, men who are not only competent to govern the inmates and manage the affairs of the establishment economically, but who have a theoretical and practical knowledge of agriculture,—who have taste and judgment to lay out the farms in the most convenient manner, and assign each part to its most appropriate use, model farms might soon be produced at small extra cost, which would not only be a credit to the State, and would contribute largely to the support of the inmates, but would be patterns to all the surrounding country. The superintendents might consult with the Board of Agriculture, and receive their advice in the management of the farms; indeed it might be proper, that the Board should be consulted in the appointments. They should be required to keep accurate accounts, of debt and credit with the farms, and report their modes of cultivation, with the results, from year to year. In this way they might be made to some extent experimental farms. The Secretary of the Board of Agriculture might direct the cultivation of foreign seeds and grains that might come into his hands, upon these farms. Experiments may be made with imported stock, and in various ways information acquired by experiments upon these farms might be rendered useful to the community.

But every thing of this sort must depend upon the men placed at the head of these institutions. They must be men who understand the fundamental principles of agriculture—men who can distinguish between a false theory and a true one. Men who shall not waste their time and force upon impracticable schemes,—but men of intelligence, judgment and experience.

I trust this subject will receive the serious consideration of the "powers that be," and that the suggestions thus made, may be like "seed sown on good ground," which shall bring forth an abundant harvest of good results. J. R.

Concord, May, 1853.

WEEDS.

Weeds, it should be recollected, are always more exhausting to soil than either roots or grain crops. They are indigenous, consequently gross feeders, and abstract from the soil only those elements of fertility which are essentially and indispensably requisite to sustain the more valuable and cultivated crops. It should ever be a rule with the farmer, to allow no plant to perfect its seed on his premises, that will, in any way, diminish the productiveness of his soil. There are many weeds which, if cut close to the soil, while in inflorescence, inevitably die; and others, if so treated, will not start again till the following year, or if they do, it will be very feebly, and with so little vigor that they will effect but little injury, comparatively speaking, and without any possibility of producing seed. Mullen, thistles, burdocks and many other noxious productions of a similar class, may be eradicated by placing a table spoonful of salt upon the stump of each plant after cutting it. When these weeds are "in force," we have frequently found it profitable to sow salt freely after mowing, as the exuding fluids of the roots dissolve it, and of course takes a portion of it into their vessels where it acts as a most efficient destroyer. If a field infested with thistles be mowed when the thistles are in full bloom, and salt, say two bushels to the acre, be sowed upon the stumps, and sheep permitted to graze in the inclosure, it is said the thistles will be at once destroyed. This is perhaps a more economical method of eradication, than removing the plants by the roots, which is tedious, expensive and but seldom effectual.

For the New England Farmer.

ABOUT SHEEP AND STEERS.

Will Mr. GEO. CAMPBELL, of Westminster, Vt., please answer the following questions for the benefit of wool growers?

1st. How much tar do you put in to a gallon of oil?

2d. How much lampblack?

3d. Do you put in any brimstone, sulphur, rosin, or any kind of mineral?

4th. What do you put it on with?

5th. How much will it take to put on one hundred sheep?

6th. What advantage it is to shear sheep the first of April?

Will some one tell how I can make steers' horns turn up when they begin to lop?

YOUNG WOOL GROWER.

Cheshire County, N. H., May, 1853.

VISIT TO THE STATE REFORM SCHOOL.

No better evidence of the progress of men in virtue, and of their gradual approach to the high standard left us by the Saviour, is needed, than the institutions founded for the comfort of the unfortunate and the reformation of the erring. In this Commonwealth these are numerous, generally managed with ability and good judgment, and are accomplishing the objects desired by their benevolent founders.

The *Reform School at Westboro'* is one of the noblest of these charities. In the language of the report of the commissioners, we believe "that of the many and valuable institutions sustained in whole or in part from the public treasury, there is none of more importance, or holds a more intimate connection with the future prosperity and moral integrity of the community, than one which promises to take neglected, wayward, wandering, idle and vicious boys, with perverse minds and corrupted hearts, and cleanse, and purify, and reform them, and thus send them forth, in the erectness of manhood and in the beauty of virtue, educated and prepared to be industrious, useful, and virtuous citizens."

Connected with this school there is a farm consisting of 285 acres of excellent land. This is diversified, having fine hill pastures, rich bottoms, broad plains of light, sandy soil, suitable for corn and roots, and the heavier granite formations, excellent for grass fields, apples and other fruits.

The location of the farm is one of surpassing loveliness. *Chauncey Pond*, a sheet of clear, pure water, about 30 feet in depth, and covering one hundred and seventy-eight acres of land, laves the foot of the pastures and fields, while the ground rises by a gentle acclivity from the shores to a height which overlooks this beautiful gem of a lake, and an extent of country beyond, embracing, in part, the village of Westborough, and, from some portions of the farm, the glittering spires of the churches at Northboro'. The situation is sufficiently retired, and yet of easy and convenient access; the depot at the village of Westboro' being within two and a half miles, and the road level, or of very gradual ascent.

The main buildings are of brick, their architectural style imposing, and the internal arrangement of them commodious, airy and convenient, while some of the accessaries are entirely out of place. The *piggery* being on one side, and an immense *reservoir* for the *collection of the drainage* being on another side of the house, the inmates may regale their sense of smell on "an ancient and fish-like" odor, from whatever point of compass the winds may come.

There are now nearly *four hundred boys* at the school, and their time is divided as follows:—for labor, six hours; for school, four hours; for sleep, eight and one-half hours; and one-half hour for devotional exercises, incidental duties, and recreation. In one apartment, we saw between 60 and 70 boys stitching men's shoes; in another, 70 at work on children's and women's shoes, and in a third, between 80 and 90 sewing on cotton cloth, and on the blue material for jackets and pantaloons, and knitting, or darning. Others were engaged in various duties about the house, and the remainder occupied on the farm.

During their playtime, after dinner, we went among these boys and had free conversation with them. On inquiring what work they chose to be engaged in, the universal reply was, farming, farming; and their countenances brightened, as they replied, each seeming to infer from the inquiry that they might, perhaps, elect, what business they should pursue. But as it is unnatural that children should be subjected to so much restraint, shut up within brick walls and close rooms, it is not strange that they all declared for the green fields, the babbling brooks, and the singing birds. Alas! that so many young hearts should throb in vain for the enjoyments of this beautiful world, open and free to all, whom the seductive influences of error have not rendered unsafe to go at large, amidst its peaceful paths and glowing forms! On these, the stamp of such influences was plain.—Some countenances there were, meek and sad, expressive of contrition and shame; but on most, that bold and hardened cast impressed on those early initiated in the school of vice, was particularly evident. On remarking that they appeared happy, one of them replied, "*ah! some of us can't help thinking; those who don't think, do well enough.*"

The institution was founded by munificent donations and bequests from the Hon. THEODORE LYMAN, of Brookline, in this State, amounting, in all, to the sum of $72,500. The farm has now cost some twelve or fifteen thousand dollars.

It is not our intention, however, to speak in detail of the founding of the institution, or the management of its inmates; but briefly to notice it in an agricultural point of view.

At the last meeting of the State Board of Agriculture, the following resolution was adopted:—*Resolved*, That Messrs. WILDER, PAGE, PROCTOR, HITCHCOCK, SMITH, DODGE, FRENCH, BROWN, SPRAGUE, and LAWTON, be a committee to confer with the Governor of the Commonwealth, and consider and report, whether any, and if so, what aid may conveniently be afforded by the State to this Board, to facilitate experiments in scientific cultivation of the soil by the use of the lands connected with the State Reform School at Westboro'.

In accordance with these instructions most of the gentlemen named in the resolution, accompanied by Mr. FLINT, Secretary of the Board, and Gen. SUTTON, of the Council, visited the farm and

school on Wednesday the first of June, and devoted the day to such examinations and inquiries as they were able to make. They found the farm as has been already suggested, possessing every natural capability that is desirable; the soil not only varying in quality, but lying so as to render every facility in the various operations of cultivation. Many improvements have been made, such as the removal of old buildings and the erection of a house for the farmer, an excellent barn, 152 by 42 feet, grading about the institution, making roads, digging wells and trenches to lay water pipes, setting fruit trees, &c., &c. A thousand other things, incident to a new place, have also been done, which would scarcely be noticed by an unpractised eye. In common, we believe, with all the committee, we were disappointed in not finding the farm in a higher state of cultivation,—a more perfect system of cropping,—better fences and gates, and that general air of neatness and order which indicates skill and thrift. There were certainly some nuisances which ought never to have been allowed to exist, and which ought to be at once abated; and there is room, we are confident, for the exercise of a degree of skill and energy which has not yet been brought to bear upon it.

Upon a careful examination of the reports, however, we find there has been a gradual increase in the Income of the farm, as will be seen by the following statement condensed from the annual reports for the last four years:—

The estimated value of the produce of the farm for the year ending Nov. 30. 1849, was	$3,181 04
Do. do. do. 1850	3,975 21
Do. do. do. 1851	5,163 15
Do. do. do. 1852	6,082 14

We have no disposition to find fault with what has been done, or neglected to be done. Our own experience, both in building and in reclaiming impoverished lands, has been sufficient to convince us that it requires a great expenditure of money, and the lapse of years of energetic application, to change the face of 300 acres and render it attractive to the critical visitor.

The committee were of opinion that the farm affords every facility for making such experiments as are considered important, and with pecuniary profit to the State; and that the farm ought, and under skilful management, may, become the Model Farm of the Commonwealth.

The Trustees, in their annual reports, speak, throughout, in the highest terms of the faithfulness and ability of all the officers in the institution. We infer, therefore, that whatever the Trustees *have directed*, has been faithfully accomplished. That some important matters have been overlooked, and that, with the means at hand, a more rapid progress might have been made, would be evident to the eye of every skilful farmer.

It is to be hoped that the present Board of Trustees will scrutinize every department, and give it all the energy of which it is susceptible, and that if unacquainted with any of the operations necessary to be conducted, they will call to their aid the enlightend wisdom of those conversant with the details of every branch of improved husbandry.

We saw enough in this brief visit to contradict the sentiment of the poet, that

> "Men's evil manners live in brass, their virtues
> We write in water."

The memory of the founder of this noble institution shall be fresh in the hearts of the people, when monuments of brass and marble shall have crumbled to their native dust. It shall dwell in the hearts of the *redeemed from youthful error*, when they stand in the purity of manhood before the world, saving and restoring in their turn, the wayward and the sinning. Let it, then, be our care to watch over its interests, and see that the objects of its founder are fully attained.

LUNAR AND STELLAR INFLUENCE.

We were under the impression that sensible people no longer consulted the "Man in the Almanac" as to when crops were to be planted, hogs killed, and children weaned; and in all seriousness, placed the alleged influence of lunar changes on the animal and vegetable kingdoms, in the same category with those which set Friday down as an unlucky day. In this, if we are to credit the following, we have been, and in quite a large and respectable company, unlearning too fast.

Mrs. Lydia Jane Pierson, in a controversy with a correspondent of the *Farm Journal*, on the subject of lunar influences, after some earnest arguments, invites him to a trial of the following experiments. She says:—"First, we test the influence of the moon in her nodes. If Medicus will lay a board on young growing grass, when the moon is in her *descending* node, he will find, on taking it up after a week or so, that it has smothered the grass under it, and settled close to the earth. A similar board similarly placed, in the time of the moon's *ascension*, will not do so. He will find, on taking it up, after the same interval, that the grass has continued to grow under it, apparently lifting the board with its growth. Next for the phases, he shall select a head of the large double French marigold; he shall have no seed but what grows in this head. He shall plant some near the full of the moon, when the sign is in Gemini or Libra; they will produce large double flowers. He shall plant the same head of seeds near the change of the moon, and the flowers will be single; and if the sign be at Leo or Scorpio, they will not develope even one full row of petals.

"He shall sow, plant, or transplant herb, vine or tree, when the moon is near the full, and the *sign* of Virgo, and he will have abundance of blossoms, and of long succession, but great paucity of seed or fruit. He shall transplant trees, or cut down weeds, briars or thistles, when the moon is old, and in the *sign* of the Heart, and if they do not die at once, they will never thrive, but dwindle away and perish.

"When Medicus shall have made these experiments, and witnessed their results, year after year, he will become a convert to the theory of lunar

and stellar influence; and though like hundreds of others he may know nothing of the astrological principles by which nature is governed, he will believe the results which he sees, and cannot controvert. Then I shall expect to hear from him again."

For the New England Farmer.

MOUNT AIRY INSTITUTE.

It appears by a notice in a number of the *Farmer*, that this institution has been discontinued, after having been in operation eight years. It is stated, also, that of the 217 pupils that have attended this agricultural school, *four* only were sons of farmers.

Had Professor WILKINSON been satisfied with the above announcement, I should not have troubled you with this communication. It is to the inference which he draws from the facts stated, that I wish to call attention,—viz.: that the reason why less than one-fiftieth of the students were sons of farmers, is because the latter think that they are competent to educate their own sons.

From these instructive facts, I draw a different inference; farmers do not patronize these isolated institutions, *because they believe our system of public schools are, or should be, fully competent to educate their sons.*

It is hoped that a brief discussion of this subject may do something towards turning the expectations and reliance of the friends of agricultural education, in this country, from schools of an European type, to those of the New England, or as it is rapidly becoming, the American system.

That isolated agricultural schools succeed in Europe, is with me *prima facie* evidence that they will not succeed here. England has excellent schools for the soldier, for the priest, for the gentleman farmer, &c., but for the "myriads of children that throng the by-places and thoroughfares of her great cities,—which cluster like bees in her vast manufacturing establishments, and overspread her well tilled fields," her government provides none. Benevolent individuals have indeed done something towards supplying this deficiency; but then it must be by means of "Ragged Schools"—as though, in England, charity for the child of neglect, dared not minister to its necessities, without mingling insult with relief. This system of education, or rather want of all system, may, and probably does, accord with the principles of government and the forms of society existing there; and consequently is unsuited to either, as established in the United States.

However brilliant the success of the "model" schools of Europe may appear, they are generally schools that none may enter but those born in certain circumstances, or possessing certain patronage or influence; and it is with the most pleasurable emotions that I turn my thoughts from them to our own New England system of education, with her district and high schools, and colleges,—the birth-right of every child born on our soil, and free to the children of the thousands who annually come to us from other lands. The world has never seen the like. "History," says Prof. G. W. BENEDICT, in a discourse upon the subject, "showed our forefathers the close connection between the characters of the various governments of the world, and that of the institutions of learning existing under them. Our government was to be different from all others that had been or were then on the earth. To produce and maintain this difference, the institutions for education were to have a corresponding character." .... "It is from the want of a right understanding of the system thus established, that so many and such diverse schemes are entered upon to effect what can be done in reality only by the system itself. Thus, instead of all devoting their care and their efforts to the advancement and perfection of its several parts, attempts without end have been made at all times and in almost all parts of our country, by individuals, by neighborhoods, and by assemblages of men, agreeing in some peculiar opinions, to establish schools of all grades and forms, quite different from the public ones; and by which out-of-the-way proceeding they have hoped some times to secure personal and local objects, and not unfrequently to accomplish some extraordinary good to their fellow-citizens. These serve to distract the public attention from the schools of the system, and oft-times for a while to do them a serious injury. Yet the result always vindicates the excellence and power of the public system, and its adaptedness to the genius of our government. It moves quietly on its way, and inevitably they are so modified as to conform to its principles and become a part of it, or they fall before it. One after another it devours them, as Aaron's rod of miraculous life swallowed the magic serpents of Egypt."

That the "public system" has thus far devoured the various schools which have been established to teach the science of agriculture, is to me a subject of congratulation; although I would not impeach the motives of the advocates of these "out-of-the-way proceedings." Men are prone to look beyond themselves and their circumstances for the means of doing *great* things. The mind somehow inclines to overlook the understood and available, and reach forth for something new, something distant, or mysterious, whenever a powerful effort is to be made. Hence, good men, in their desire to advance the cause of education among farmers, seem to overlook our New England system of schools,—a system born of the very necessities of freedom—a system on which the liberties of twenty-three millions of freemen rest—a system in which they have themselves been educated,—and advocate the adoption of the schools of England and of the continent as models for institutions in which American farmers are to be educated!

That the demand for agricultural colleges and schools involves this idea, I am fully satisfied.—They do not harmonize with our free institutions; they favor a *class*—a large one, to be sure, but all the worse for that; as a large influence would be withdrawn from schools common to all.

I fear our system of public schools is in danger, both from the assaults of open enemies, and the indifference of friends. A large portion of the foreigners who annually flock to our shores are directly or indirectly opposed to the entire plan. It is boldly attacked, already, in our large cities; and will be everywhere, as soon as opposition can be made with any prospect of success. Are the descendents of the founders of this system of free schools aware of the position they assume towards it, when they acknowledge, that, as to the education of nine-tenths of the people, it has proved inefficient! S. F.

Winchester, March, 1853.

LIVING IN CLOVER.

That there is considerable difference between "seed-time and harvest," is sometimes evident to the "meanest capacity." In the spring of promise the demagogue, the humbug and the speculator, incontinently make up their minds that there is "a good time coming." The demagogue assures his supporters that his plan will hasten it, but "the good time" is his own election to a fat office. The humbug lectures, sings, spouts and prints, and the "good time" comes to him in large subscriptions and accumulating pence—the "isms" and "ites" and "tites" and "bites" sell to advantage, and the *seedy* old coat finds itself in "high grass." The speculator acts more directly to the purpose; he forms his theory, keeps it secret, sows his seed and awaits the harvest; but, alas, many a blight defers the fruition of his hopes, and in some cases, when he has determined to "live in clover," and make seed rise without sprouting, he finds, too late, that he has only been going through a "course of sprouts," and that it is the free sellers and not the monopolizers who "live in clover."

During the last summer, when money was plenty, the sun bright, the harvest abundant, hay fragrant, yellow corn waving, and yellow gold on the waves, some half dozen sagacious gentlemen of New York, in connection with a profound director of a Philadelphia bank, formed an association for motives which must have puzzled a Philadelphia lawyer to divine. This association being of that class who know everything, "who never want nobody to tell them nothing, because they know more about their business than anybody else," nevertheless received accurate information that the crop of clover-seed was short in Germany, with chances of short comings in England, and possessed of this information, they *straightways* concluded to make a "ten strike" and go to grass for the rest of their days. Seed was about 8¼ to 9 cents per lb., say $5,50 per bushel, and they began to buy with a degree of shrewdness, promptness and sagacity worthy of a better cause. But to buy is easy—that is, when you have got the money—and if you have got a bank, you have got the money. Cæsar said, "Give me money and I will have men; give me men and I will get money." The purchases went on to the extent of 60,000 bushels, and the price gradually rose to 13 cents per pound. The Ohio farmers and the Western growers opened their eyes and opened their granaries, getting a pretty good yield from that seed. But the blasted Dutch did not buy. They are proverbially a slow race, and had not found out how much they wanted "clover-seed." Like the stupid English at Waterloo, who didn't know when they were beaten, they were tremendously in want of clover-seed and didn't know it. So phlegmatic were they, that when the great association had, for the relief of the Dutch, sent out cargoes, these Flemings absolutely allowed it to be re-shipped to London to compete there with direct shipments hence, for the relief of the English, and these English, who, as everybody knows, have some Saxon blood, absolutely sent some of the seed back here.

Here is a pretty kettle of fish! The great association, with the Philadelphia Bank President at the top of it, as Nick Biddle was formerly at the top of the cotton market, is, with the New York *Shipping List* for an organ, stuck at the close of the season with 50,000 bushels clover-seed at 13 cents, with interest, storage, commissions, and deterioration, to hold over to another season, when the high quotations of the last six months will stimulate an unheard of production. Fresh seed pouring on the market to compete with this old seed, will probably knock it out of the shell, and low prices may be looked for. It is always the case with these violent vacillations that the market goes lower in consequence of a rise, and we should not be surprised if the present stock, say 30,000 bushels here, a good deal of it in Ohio, and 15,000 bushels in Europe, did not bring 13 cents, involving a loss of $150,000, all because the Dutch don't know what they want.

The New York *Shipping List* had the exclusive information in relation to the course of the seed market, and imparted its useful information generally. If its readers didn't know all about it, "hadn't they oughten" to have known all about it? The seed did not finally go to that "bourne from whence no traveller returns;" it came back, and like modern spirits, to rap—rap the speculators over the knuckles. And the epitaph on Hones-John's horse will apply to the dead speculation:

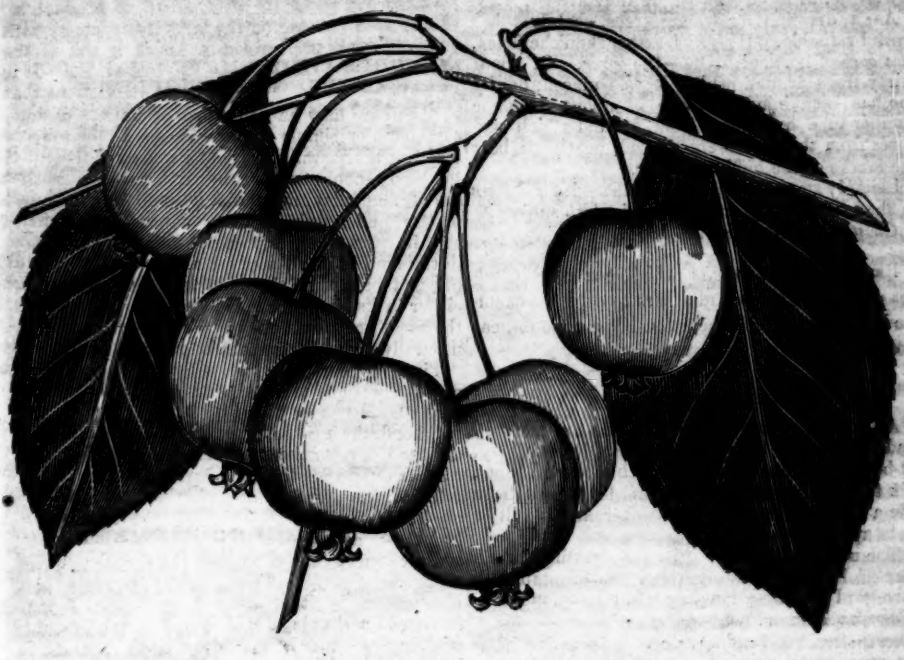
> "If he'd of lived, he'd of lived in clover,
> But as he died, he died all over."

Philadelphia Paper.

IMPORTANT TO FARMERS.

Every article which can aid the farmer in developing the agricultural treasures of the earth, is of consequence to the world at large. Such an article is asserted to have been found on the Island of St. Vincent, one of the West India Islands, in what is known by the name of "pozzolano." It is said that the island abounds in a kind of earth of the most peculiar properties. It has been analyzed by English chemists, who pronounce it superior to guano as a manure. It is also an excellent cement for use under water. Webster defines "pozzuolana" or "pozzolana," as "volcanic ashes, used in the manufacture of mortar which hardens under water. They are from Pozzuoli, in Italy." Webster makes no mention of its nutritive properties, if such it possess. The only particulars we have in regard to the extent to which it is being applied, are contained in the following extract from the *Mirror*, published on the Island of St. Vincent:

"We are glad to find that the peculiar properties of this description of earth, with which our island abounds, of quality far superior to what may be had from any other island, are now being very generally understood, and that the article, from the increasing demand for it, is likely to become before long one of regular exportation from St. Vincent. Nearly 2000 tons have been exported hence to Bermuda during the last three years, where it is used by government upon the erection of an extensive breakwater at Ireland Island, and is found to be very far superior to anything hitherto used for similar purposes. It has also been recently analyzed by eminent chemists in England, and pronounced by them as invaluable manure, superior to guano. In Trinidad, and several other colonies, it has been tried successfully for various purposes, and we have the attestations of reputable scientific men that, for every description of constructions under water, the pozzolano from this island is far preferable to Roman cement."



YELLOW SIBERIAN CRAB.

The above beautiful portrait faithfully represents a cluster plucked from a tree in the garden of Mr. Raynolds, one of the proprietors of this paper. The whole tree, fruit and all, was the handsomest we ever saw. Every garden should have a tree of the red and yellow crab apple. The fruit is esteemed for preserving, while the tree is highly ornamental; the blossoms are white, produced in beautiful profusion in spring, and a large crop of fruit regularly follows.

Fruit about three-fourths of an inch in diameter very regularly formed and rather flat. Stalk nearly two inches long, and very slender. Calxy small, slightly sunk. Fit for preserving in September.

For the New England Farmer.

CHARCOAL.

Mr. Editor:—Supposing the readers of the *Farmer* to have an interest in whatever may cause a more bounteous harvest, by enriching the soil, or destroying the insect tribes which so often flourish at the farmer's expense, I thought to give a brief account of the *effects* of charcoal on grass lands, field crops, garden and fruit trees. It was not pure coal that was used, but fine refuse coal, taken from the hearths where pits had been burned; and so necessarily mixed with the loam, with which the pits were covered, and a small quantity of ashes. Such old hearths are found in almost every New England town, particularly those at a distance from the cities, where wood is plenty and manures scarce; hence the necessity that every thing "be turned to good account," by being made to assist the cultivator of a somewhat sterile soil, to increase the productive capacity of his farm.

Some four years since, a piece of grass land was top dressed with coal dust, at the rate of about five cords to the acre. The crop of hay was increased in quantity, and improved in quality. A part of the lot was left undressed, so the effect was readily seen. It was moist land, and such seems to be most benefited by coal.

For about ten years, I have used charcoal, composted with stable manure, for corn and potatoes. Previous to using it the corn was frequently injured, and sometimes destroyed, by worms in the spring; but now the corn is food for hogs instead of worms. On the same land, where corn was very much injured by worms ten years ago, last season, not a hill was attacked.

For potatoes, it has been used as for corn, and with equally good results. The wire-worm no longer takes up his winter quarters in this most valuable root. At the table, no special care is now required to distinguish a potato from the pepper-box. Our strong Irish propensity is not checked, at the sight of the animal and vegetable cooked in a little too near proximity.

I have somewhere seen it stated, that charcoal would prevent the potato rot, but with us it seems neither to produce nor prevent it. On a neighbor's field which I saw, they were equally rotten, in a bed of coal dust, and where there was no coal.

An old, wormy garden was spread over with a heavy coat of coal dust a few years since. The worms have died, or ceased their depredations, it matters not which, since beets, radishes and onions now grow, fit to be seen before they are eaten.

As a dressing for young trees, coal-dust has proved valuable. It checks, rather than cherishes, that *bore* of horticulturists—the *borer*. Of about thirty trees around which it was placed, hardly one has been injured; while of about the same number in a contiguous field, around which manures from the barn were spread, nearly all bear the marks of the hidden worker.

I simply state the *results*, and leave it for others to shed the *light of science* on this *dark* subject.

Chester, N. H., May 25, 1853. M.

REMARKS.—The *results* which our correspondent states, ought to lead others to copy his example in the use of coal hearths. We hope to hear from him often.

COMPOSTING.

A GOOD COMPOST FOR SANDY LAND.—Take 10 loads of stable or barnyard manure, 5 loads of clay, 20 bushels of ashes, and twenty bushels of lime; mix the whole well together, and let it remain in pile a few weeks; then turn it over, and it will be fit to apply to the land.

The above will make a better dressing for an acre of land than twenty-five loads of stable or barn-yard manure alone, and will last longer.—*American Farmer.*

In all composts intended for light, sandy soils, clay is one of the most valuable ingredients that can possibly be used. One reason why sandy lands are so little capable of vegetable production, is their want of adhesiveness. It is almost impossible to consolidate them sufficiently to secure that degree of retention so essentially and indispensably necessary to the decomposition of those organic matters which are applied in the course of cultivation as manure.

The quantity of clay required to change the constitutional texture of such lands, is necessarily great; yet with copious applications of putrescent substances, and the regular and systematic manipulations of judicious husbandry, the task of supplying as much as may be necessary effectually to ameliorate and permanently to improve the texture and productive capacity is by no means tedious.

There are few farmers who could not devote three or four days in the year, with their teams, to carting on clay from the low grounds, or to accumulating it in their yards and hog-styes, to be then worked up and composted with the voidings of the animals and other materials capable of imparting fertility to their lands.

The more clay one can afford on such improvements, the better; for there is little danger, in any case, of applying too much. Sand on clay lands, is equally beneficial, and perhaps, in most cases, even more so.

Of the different modes of applying clay, we rather prefer that of hauling it on to the land in the autumn, spread, and let the frost do its work upon it in winter.

For the New England Farmer.

MANURES—THEIR NATURE AND CONSTITUENT PRINCIPLES.

A manure may be defined to be any fertilizing compound or simple ingredient added to a soil of which it is naturally deficient; and as all cultivated lands should contain the earths, silica, carbonate of lime, clay, magnesia, decomposing organic matter, and certain saline substances, it is evident that in cases where any one of these is contained in the land in insufficient quantities for the supply of vegetables, then the addition of that substance, either in its simple or compound form, constitutes the great art of manuring. Fertilizers, therefore, naturally divide themselves into three classes.

First, the earthy, which is by far the most permanent portions of a soil, and are usually applied in the largest proportions.

Second, the organic, vegetable and animal, which are the least permanent, and are used in much smaller quantities than the earthy, and,

Third, the saline, which are the most sparingly used of all fertilizers, are the most readily absorbed by plants, and whose period of duration in the soil are longer than the organic, but less than the earthy.

A manure is either useful to vegetation by affording in a simple or a decomposed state, direct food or constituents of food, or else it is a fertilizer, by giving to the soil additional powers to absorb and retain atmospheric gases and moisture. I shall be able to explain hereafter that most manures applied to land assist in the growth of plants in both ways. Looking at the question abstractly, it must be evident that as animals receive almost the whole of their nutriment, either directly or indirectly, from the vegetable kingdom, their excrement or their decomposing bodies returning to the soil, must form the best manures. With regard to some inorganic substances, clay of the earthy manures, and some of the saline fertilizers, act principally by their absorption and retention of moisture. Gypsum and silica, it is true, enter into the composition of the grasses, and in minute proportions other salts do the same, but if we except the phosphate of lime, (the earthy parts of bones) none of the salts can be considered to be a very general direct food for plants. Davy very clearly explains the desirable objects in the fertilizing of soils: he says that the plants growing in a soil incapable of supplying them with sufficient manure or dead organized matter, are generally very low, having brown or dark green leaves, and their woody fibre abounds in earth. Those vegetating on peaty soils, he says, or on land too copiously supplied with animal or vegetable matter, rapidly expand, produce large, bright green leaves, abound in sap and generally blossom prematurely. Excess of poverty or riches, is equally fatal to the hopes of the farmer, and the true constitution of the soil, for the best crops, is that in which the earthy materials, the moisture and manure, are properly associated, and in which the decomposing vegetable or animal matter does not exceed one-fourth of the weight of the earthy constituents.

Of the organic manures, those which the most readily putrefy are the most rapid in their effects; but then, on the other hand, they are the most speedily exhausted; thus oil and fish, the most rapid of fertilizers, are exhausted by the few first crops, whilst bones, which decay more slowly, last longer in soil. The effect of chopped woollen rags is excellent for two years in heavy soils, and for three in light soils. Farm-yard manure, when applied in a style of freshness, illustrates the same result. Take two pieces of the same kind of soil and manure one of them with a mixture of dung and straw highly putrefied, and the other with the same mixture newly made, and the straw almost fresh, it will be observed that the plants grown upon the land with the putrefied dung produce a much better crop the first year than the other, but the second year the land with the fresh dung will produce far the best crop, and the same result will appear the third year, after which both will appear equally exhausted.

It is of the highest importance to the farmer that he should obtain a correct knowledge of the mode in which those manures operate which are found to be advantageous to the growth of his crops. He must discard from his mind all those false conclusions which are sometimes drawn with regard to an imaginary power assigned to plants of generating vegetable substances, for they can effect no such miraculous results. It is true they can combine the gases or elements of vegetable matters together, and form gluten, starch, gum, sugar, woody fibre, &c. They can absorb and arrange with those earths and saline bodies, but the oxygen, the carbon, the nitrogen and hydrogen of which the first named are comprised and which plants usually obtain from either the atmosphere or the decomposition of organic matter, they can no more create than they can form the lime or silica which are present in most vegetables. Davy proves this when he made a plant of oat grow in pure carbonate of lime and watered with distilled water. It grew but weakly, although it had a free supply of atmospheric air, yet the access of all dust was carefully prevented. Upon analyzing the plant it was found to have much increased in carbonate of lime, but its silica was rather diminished.

It should also be a received axiom with the farmer that there is no part of any decomposing manure, animal or vegetable, but what is either, in its gaseous or fluid state, the natural food of plants; thus the gases emitted by the putrefaction of a dung-hill are as much lost to the vegetable matters of the soil, as also the liquid that is allowed to run away from the heap, and such an injury is never submitted to by the intelligent farmer but from unavoidable necessity.

The mixing of caustic lime with dung is a most baneful practice, as it renders the ammonia caustic and volatile to the highest degree, and causes the loss of the most energetic portion of the dung. When land requires lime it should be applied separately, as the lime will in a short time absorb the oxygen from the air and form carbonate of lime and carbonic acid, in which state it is most beneficial to the soil, both for the absorbing of moisure from the air and supplying the embryo plant with carbonic acid, which is essential to its germination and future growth. But to return to my former subject. We see the value of green manures, for in these cases every portion of the decaying and fermenting fertilizer is gradually absorbed by the roots and leaves of the succeeding crops.

MATTHEW A. PERRY.

Watertown, May 16, 1853.

FOOD OF PLANTS—MODE OF SUPPLY—NOURISHMENT.

Carbon, oxygen and hydrogen exist abundantly in plants. Nitrogen is contained in them in somewhat less quantity; but is essential to their growth and nourishment. It is this last element, nitrogen, to which the cereal grains and other products owe their nutritive quality; being a principal component of gluten, which exists largely in all the grains, and most in wheat. It is on account of the greater proportion of gluten in wheat that this is more nutritious than the other grains. Wheat approaches nearer to animal flesh than most other vegetables, nitrogen and phosphate of lime being in large part the constituents of both.

These several substances which are essential to the nourishment of plants, are absorbed by them from the atmosphere, by the action of their leaves and their general surface, and also taken up from the earth by their roots. The four elementary substances named are the principal constituents of all vegetables. They, however, mostly absorb some earthy matter by their roots, as phosphate of lime already mentioned, and silica, which are in this way taken up by wheat and constitute important ingredients in the vegetable economy.

The mode by which this food is taken up and assimilated to the vegetable organism, is matter not only of curious knowledge but of most useful instruction to the farmer. And we shall, therefore, in a few words explain the process.

Most of the oxygen contained in vegetable substances is taken up by them either in combination with carbon or hydrogen. These are chiefly obtained, by respiration, from the atmosphere, by the leaves and general surface. When the first of these gases is taken in with hydrogen, the combined substances form water; when taken in with carbon the united substances form carbonic acid, the surplus oxygen escaping in respiration. Nitrogen is taken in by the plant in the same way, usually in combination with some of the other atmospheric constituents. By its union with hydrogen in the tissues of plants ammonia is formed, which is most essential to the nourishment of all vegetables. The principal supply of this substance, ammonia, is, however, taken up by the roots.

Beside the earthy matters above mentioned, silica, phosphate of lime and ammonia, potash, in some form, is found in many vegetables. Of these, each different species of plant has some one or more essential to its growth, though not requiring a large supply. The substances, in fact, absorbed from the atmosphere alone, have been found suffi-

cient to sustain the life of a tree or plant for a long time;—water, carbonic acid, and ammonia, which are taken from the atmosphere, or formed within the plant from the gases inhaled, supplying ingredients of new compounds, which are wholly sufficient to the vegetable life.

Most plants, however, require for their nourishment, and vigorous growth, something more by way of aliment than can be collected from the atmosphere. This they are enabled to obtain by their roots from the surrounding soil. Thus a great deal of moisture is taken up by the roots, and with this a small portion of the earthy matters necessary to the food of the plant. Some soils are better adapted than others to hold and furnish the needed quantity. We cannot in a brief paragraph explain the differences.

It is the office of the soil, also, to supply carbonic acid as well as water. The decay of matter in the earth continually furnishes this product, and it is also furnished to the roots, as to the leaves and aerial surface, by the atmosphere, on the two constituents of carbon and oxygen, which uniting in the tissues of the plants, form the carbonic acid. The absorption of this carbonic acid by the roots may be much assisted artificially. One way of doing this is by animal or vegetable substances in decomposition, which furnish it abundantly. It may be also assisted in other modes. Some substances absorb gases to many times their own bulk. Of these, charcoal has a great capacity for absorbing carbonic acid gas from the air. If, therefore, charcoal be placed about the roots, and an abundant supply of water given, the carbonic acid gas which is extracted from the atmosphere by the charcoal will be dissolved by the water, and with it taken up into the plant by the root.

ANALYSIS OF SOILS AND THEIR PRODUCTIONS.

At a recent meeting of the U. S. Agricultural Society at Washington, a paper was read which had been presented to the Pennsylvania Agricultural Society by Prof. Booth, of Philadelphia, on this subject. The purport was, that in the present state of chemical science not much practical benefit could accrue to the farmer, from having his soils analyzed. Soils were extremely various, the best known methods of analysis complicated, laborious, and of course, expensive. Very small quantities of some important ingredients were necessary for the crop; the difficulty of determining these minute quantities was very great; and a great degree of uncertainty attended the result.

The paper breathed throughout the caution and modesty of true science, and as it appeared to us, showed a noble disposition to be satisfied with nothing short of scientific accuracy. But the question is, may not an analysis which is not in all respects minutely accurate, be of service! We have no doubt but it may be in many cases. The danger is that the analist will claim too much, his directions fail, and science become, in the view of the farmer, a humbug, as we believe very many of the $5 analyses truly are. Prof. Mapes attacked the paper of Prof. Booth with great vehemence, claiming that his positions were nearly all wrong. Considerable discussion followed, after which, it appearing that the paper was not presented for the *action* of the U. S. Society, but as a part of the proceedings of the Pennsylvania Society, and so far as could be ascertained, even without Prof. Booth's knowledge, it was (not withdrawn, as many reports have said,) put in the hands of the gentleman by whom the Pennsylvania proceedings were presented, to take such course as Prof. Booth should direct. As the thing was placed, the discussion was out of place, and to have directed it withdrawn would have been very uncourteous to the Pennsylvania Society.

The subject was deemed one of great importance, and there were many who wished to have the paper brought before the Society in such a manner that it could be, with propriety, discussed, and perhaps be made the basis of a report from a committee.

We have high hopes and expectations from the aid of science in the cause of agriculture; but when the best analytic chemists of the day speak with great caution on the subject of soil analysis as the *director* of the farmer, it should lead us not to rely too confidently on the decisions of second or third rate chemists, however confident they may be.

But analysis may be a good *councillor* where it is not entitled to the rank of *commander*. Some ingredient which should exist in considerable quantities may be so deficient that a very imperfect assay will show a defect. If those crops which require a full supply of the ingredient supposed deficient, have failed on the soil analized, the probability would be very strong that we were on the right track. But this last thought suggests another field for scientific analyses, which is, in our view, subject to less difficulty, and offers a richer harvest.

We refer to the analysis of the products of the soil. If it is known of what ingredients the kernel of wheat is composed, and of what the straw, we may often tell why, on some fields, a heavy growth of straw with small, poor kernels, is the usual result. It may be said that the small grain comes from the falling down of the straw; but the question is, why does the straw fall? Every one knows that it is not always because it is large. It will often fall when, if it stood up and filled well, nothing more than a medium crop could be obtained. Straw generally falls because it lacks a due portion of silica, (silex, flinstone.) It is this that adds due strength to it. Now it is true that almost, if not all soils, muck excepted, contain silex enough, but it is not in a state to be dissolved by water. If potash be added you get a silicate, a new compound, which is soluble. If common yard manure, unfermented, be applied freely to soils not well supplied with silica in a soluble state, you will get a large growth of straw, extremely weak and almost certain to fall early. But if the soil is rich from manure applied the year previous, and now well decomposed and thoroughly mixed with the earth, and a due proportion of alkalies and other ingredients of the crop are present, you may set as heavy a growth of straw standing erect and carrying to perfect

maturity thrible the weight of grain obtained in the other case. But the kernel contains a very large portion of phosphoric acid and but little silica. You may, therefore, get a good straw with a small, poor berry. We have no doubt that a shrunk berry is often, not always, but often caused by the want of a proper quantity of phosphoric acid in the soil.

Now the different crops draw, in general terms, on the same ingredients of the soil, but in extremely different proportions. While the ash of one production will be composed of fifty parts in a hundred of some particular ingredient, the ash of another will show less than one part in five hundred of that ingredient, but it will draw largely upon some other element. Hence the great value of changing crops,—rotation of crops. Every farmer should have good tables of the ingredients of the various productions of the soil, and make them his *councillors* in all his operations.—*Pittsfield Culturist.*

ANOTHER TRIAL OF PLOWS.

Stop the PLOW, and if it did not stop civilization, it would give it such a blow as to stagger it almost beyond further power of progress. We wonder even now, how people subsist? and on what they subsist, in populous countries, where the PLOW still remains a rude and unwieldy instrument, or where it is scarcely worthy the name of an implement of husbandry, and is too ill-contrived and inefficient to remove the soil more than an inch or two in depth.

We were never more forcibly reminded of the vast importance of the PLOW than in witnessing the trial of several of new and most beautiful construction on the farm of Mr. JOEL NOURSE, in Ipswich, on Tuesday, the 24th of May. Several gentlemen of great practical experience were present, as well as others acquainted with the mathematical construction of the implement, among whom was Mr. KNOX, the Pattern-maker in the large establishment of Messrs. Ruggles, Nourse, Mason & Co., of Boston and Worcester.

A plow to possess the necessary strength, and at the same time to lay off, *and lay handsomely away*, the earth, or furrow, raised by the movement of the team, must not only be constructed with mechanical skill, but upon *true mathematical principles*. The mould board must be so shaped as to roll easily away the furrow, which has been placed upon it, while those shapes must, at the same time, offer the least possible resistance to the progress of the plow. It must combine the properties both of the wedge and screw. Happily, Mr. KNOX seems to understand these wants, and has accordingly given us plows which are models of mechanical skill and whose forms are fashioned by mathematical rules.

We have space at present to speak of only two of the plows used in this trial,—the Deep Tiller, No. 77, and the Double Mould-board, or Skim Plow, and a few words of a new implement called "*The Horse Hoe.*"

The ground on which the trial took place was a sandy loam, never having been plowed deeper than 8 or 9 inches, free from stones, and altogether favorable for the trial.

The team, consisting of two pairs of oxen, was hitched to the Deep Tiller, and set in motion, and never before did we witness such execution with the plow. A trench 12 *to* 13 *inches deep, and* 24 *inches wide*, was cut and cleaned out at every round, the furrow being laid over, not entirely flat, but so as to cover every blade of grass. What an achievement! And going down, too, some 3 or 4 inches where plow had never been before. It was done quietly, and without over exertion to the team, the cattle taking an even and steady step round the land. There was almost a sublimity in this rapid change of the solid earth. In it we saw not only future harvests of swelling fruits and golden grain, but the pioneer of civilization, the triumphs of science and skill over the resisting form of the earth! An old observer remarked, that 12 oxen were formerly required to cut such a furrow with a ponderous mis-shapen machine.

On laying a ten foot pole across the plowed ground and lapping over the unplowed, it was found that the process of plowing had raised the ground six inches higher than it laid before.

The trial with the double plow was no less satisfactory. It cut a furrow 9 inches deep, and 12 inches wide, first taking off 3 inches of the turf and laying it fairly over, with both edges resting on the bottom of the previous furrow—or, in other words, leaving the centre of the turf a little the highest. It turns up and pulverizes the remaining portion of the furrow in the most desirable manner, leaving it in such condition that a trifling labor only, is necessary to prepare it for the seed. It appeared to us that the power required to plow a given depth was not as much with the double plow as with a single one.

But the operations of the "Horse Hoe," a new and beautiful implement, invented by the manufacturers, added a crowning grace to this interesting trial. We shall give a more particular description of it hereafter.

The Horse Hoe is the most attractive implement we have ever seen on the farm, and, after the plow, we shall be mistaken if it does not prove one of the most efficient.

Among others present on this occasion, was our Associate, Mr. F. HOLBROOK, the farmer of Vermont, as graceful with the plow handles as with the pen, and always the cool, sound, practical man.

The trial was more satisfactory than any we had before witnessed, inasmuch as the ground was more favorable, and the plows in exact working order.

Our thanks are due all the persons attending for kind attentions, and particularly to the gentlemanly proprietor of the farm.

THE FLOWERS.

BY C. D. STUART.

There is a legend old as earth,
But beautiful and true,
Which tells us how the flowers had birth,
And wherefore came the dew.

When Eve, through Satan's sore deceit,
Touched the forbidden tree,
And tempted her "good man" to eat,
The Lord came angrily;

And straightway turned from Eden's bowers
These first-born sinners forth,
Away from all its smiling flowers—
Upon the barren earth.

But pitying—ere to Heaven he passed—
His angels—brothers then—
O'er all the earth their footprints cast,
And hill, and vale, and glen,

Sparkled with flowers—Earth's starry spheres—
And ere they fled from view,
They strewed the flowers with pitying tears,
Which since has passed for dew.

And thus, though Paradise was lost
By first of human kind,
Their children know, though sorely crossed,
God's love is left behind.

HORSES—CAREFUL USE OF, &C.

An acquaintance lost his horse, a few days ago in a manner that would suggest an habitual caution in driving. The horse, a valuable one, well kept, in good spirits, and in perfect health, was taken from the stable and driven. He had ascended a long and hard hill within the first mile of driving, and as soon as the summit was reached, the driver, as is the habit of many, touched him with the whip; he sprang, stopped, staggered, and fell, and by the time the driver could alight from the carriage, he was dead. An examination showed that a large blood-vessel near the heart had been ruptured. No appearance of disease could be detected.

Now there would be in the same circumstances always a danger of a similar occurrence. Especially if the stomach should happen to be filled, as it would be directly after a full meal.

Every increase of the muscular action of any animal produces an increase in the rapidity of the circulation of the blood. This arises from two causes, one mechanical, as the compression of the blood-vessels by the muscular contraction; and one physical, as the necessity for the more rapid purification of the blood in a period of exercise.

Physiology teaches that every muscular action is attended with a waste of the material of the body, as in galvanic action when zinc is used in the circuit, at each period of action, portions of the zinc are destroyed. This waste portion of the animal solid goes into the blood and must be discharged mainly from the blood in the lungs. The more violent the muscular action, the more of this waste matter is given to the blood, and this once loaded with it is useless until it has been purified in the lungs. Consequently the blood is sent to the lungs in a vastly increased current, and the breathing becomes more rapid to introduce larger portions of air to the blood in the lungs. Here, then, are increased quantities of air in the lungs at the same time, producing a state of fullness if the lungs have full play. But if the stomach is full and pressing upon the cavity of the lungs, it is easy to see that a great pressure of blood in the lungs and the great cavities of the heart must take place. Almost every person has experienced the sharp pain and distress produced by this state of things after having run a little way sharply, not being accustomed to the exercise. It is not difficult to see how, in this crowded state of the vessels, a sudden and powerful muscular exertion should cause a rupture of some one of the distended vessels.

When a rupture of a blood vessel does not result, oftentimes so much injury is done to the delicate membrane of the air cells as to produce an incurable heaves.

We were early taught this lesson of care in driving, by an old stage proprietor of whom we once had a pair of horses for a journey. "The only caution," said he, "I care to give you about driving, is never to start quick from the top of a hill you have just ascended. If you do you may spoil the horses' wind."—*Granite Farmer.*

THE ONION WORM.

Within a few years past, our gardeners, in many parts of the State, have been exceedingly annoyed by a little worm that would be found in the very heart of their young onions, which destroyed them entirely, if not eradicated in season. In some places it has been impossible to raise onions at all, and their cultivation has been given up. Almost every expedient has been tried to prevent the ravages of these little destroyers, but with very little effect. Indeed, there has been a good deal of obscurity in regard to the origin and habits of it, and, therefore, no very systematic course of prevention could be adopted understandingly.

We were pleased to find a chapter on this subject in the last *Granite Farmer*, communicated to that excellent paper by Hon. Edmund Burke, formerly Commissioner of Patents at Washington.

Mr. B. found that this insect laid a claim to the onion beds in his garden, and was destroying them both root and branch, affording him no prospect of having a single onion to flavor even a "hasty plate of soup" in the fall.

In searching out the causes that left him thus *onionless*, he says he found a description of it in "Kollar's work on insects injurious to gardens," and he forwards to that paper, Kollar's description and history of this insect, a part of which we here borrow for the benefit of our readers who have heretofore had cause to mourn over their desolated onion beds in the spring.

The perfect insect or fly, says Kollar, is entirely of an ash gray color in the females, with black stripes in the males, (known to naturalists by the name of *Anthomyia Ceparum*,) the wings clear like glass, with blood iridescent reflections, and yellowish brown veins. It is found throughout the summer in several generations. The larva lives during that season singly, and also gregariously on the different sorts of leeks and onions, and does great damage among the white onions, so that it often destroys the whole crop.

"The fly lays her eggs on the leaves of the onions, close to the earth. The newly hatched maggot bores through the first leaf and then descends between the leaves into the onion in its base, when it entirely destroys the bulb, which soon becomes

rotten. It leaves the onion to undergo its transformation in the earth, and becomes an elliptical, reddish-brown, wrinkled pupa, out of which the perfect fly is developed in summer, in from ten to twenty days. The later broods pass the winter in the pupa state."

The same insect is mentioned in Kirbey and Spence's work on Entomology. After learning its history, I observed carefully its habits, and found them to conform precisely to the account of it given by Kollar.

So much for the description of the insect. The next thing, and a very important one, too, is to know what is the best mode of prevention, and what the best mode of destroying after you have found that you have not prevented its attacks. This has not yet been found out. Kollar says it is very difficult to destroy these insects, and Kollar speaks the truth, as all who have tried to do it will abundantly testify.

He recommends the use of powdered charcoal which he says must not be applied to every part of the bed, because it is advisable to sacrifice a portion of the crop rather than lose the whole, by leaving patches free from charcoal, where the parent fly will deposit her eggs, and when hatched, the lavæ can be easily removed in the onions left for them to devour, and be] buried very deep or burnt.

This process, however, is not very sure. Charcoal ashes, tobacco water, and such like things, have been tried here with but very little success. Unless you happen to hit when the worm is on the outside of the leaf, and before it has burrowed into the stalk, you do not disturb it much, and after he gets in out of the reach of your ashes and tobacco spittle, what cares he how much you "pile on!"

Mr. Burke also says:—

"I have also learned from other sources that lime from the dry purifiers of gas works, and soot are also very efficient preventives of the ravages of this insect. And recently I have been informed that tar—raw tar sprinkled daily upon the plants, is also an effectual remedy. I was recommended by one of the Shakers of Enfield, to try ashes and lime. I made the application to my beds the present season, and succeeded in saving about one-fourth part of the crop."

We should think that raw tar, sprinkled upon the plants, could be of no particular service unless it covered them entirely, and if it did so, it would be as destructive as the worm itself, for no plant could grow encased in a coat of tar. It is probable, if tar is of any use as a preventive, it is owing to its odor being offensive to the fly, and thereby keeping it off the premises. If so, tar in cups, or on chips, placed plentifully among the onions, would be a better way of applying it. We leave the matter for further research and experiment.—*Maine Farmer.*

The Human Family.—From a curious statistical digest just published in Europe, it appears that the human family numbers 7000,000,000, and the annual loss by death is 18,000,000, which produces 624,400 tons of animal matter, which in turn generates by decomposition 9,000,000 cubic feet of gases, which are cleared away from the atmosphere by vegetable matter decomposing and assimilating them for their own uses. This is an interesting subject for philosophy.

For the New England Farmer.

MONTHLY FARMER FOR JUNE.

In green-sward or other tough hoeing, especially if the rows are rather long, and one has to work alone, there is some comfort, at least, in apportioning the work and time, and keeping a sort of reckoning of one's progress. On the same principle, I found so great convenience, last month, in parcelling out the pages of the *Farmer*, that I shall adopt the same method this month.

THE FIRST TEN PAGES.

The "Calendar," as usual, leads the dance, with pleasant thoughts and practical hints. The danger of our observation and knowledge being too much in general, too little in particular, is well put. "Passing Matters" is a specimen of the valuable articles that might be furnished by all farmers were they in the habit of recording such passing matters as almost daily make a momentary impression on their minds, then slip, and are lost to themselves and the world. Young men, especially, should cultivate the habit of committing their thoughts and impressions to writing. It was not without practice that "R. B. H." acquired the ability to paint with such life and distinctness, as he does in "Sketches of Travel." He *shows* us things and scenes,—villages, fields, Pennsylvania horses, wagons, barns and the Col.'s farm—all he saw, we see. Following "Plowman's Song" we have a proposition that the "State Farm at Westborough" be made a sort of model and experimental farm. The subject is continued, by another writer, on page 272, and on page 285, we notice the appointment, by the State Board of Agriculture, of a committee to confer with the Governor upon the subject. "Old Apple Trees"—Strictures and Advice on Grafting. All right, old Bach; but I have another little job for you in your knuckle-rapping line. Those folks who set out little switches of trees, high as your hat and large as your thumb, and wont allow a leaf or branch to shade the sapling lower down than the backs of the team they intend to plow with, need your opinion. But we must hurry through our first division, although we have to pass over such articles as "Rules for using Guano," which give information that probably cost the writer the price of the *Monthly Farmer* many times over; "Duration of Posts;" "Feeding Teams;" "Plan of a School House;" "Patrons, Patronage, &c."

THE SECOND TEN PAGES,

Commence with a criticism on "Experimental Farming" in the March number. In relation to the writer's idea of *the soil*, I will remark that in digging my barn-cellar we came upon a strata, of gravel about two inches thick, and nearly two feet below the surface. Now, this same strata, or layer, "crops out" and becomes soil,—all there is of soil,—same six or eight rods from the barn.—Then we have "Rural Pleasures," and directions for destroying "Witch Grass." To those who think of trying Mr. Penoyer's "Potato Rot Cure," I will say that for two years past, I have applied a mixture of lime and plaster by shaking it from a small bail-basket over and onto the potato vines. "Farmers' Cabinets"—A little experience, years since,

in this cabinet line, forced upon me the conviction that, for all practical purposes, there is a difference between men as they *might* be, and men as they *are*. "Insects"—The writer thinks insects are not the cause of plum-tree warts; and he even goes into a defence of the whole race. Troublesome as insects are, who knows that any of us could, after all, make a much better world, than the one in which our patience is sorely tried?—"*Monthly Farmer* for April."—A month behindhand, Mr. Reviewer; but they did get along without you. Your preaching about editors not being responsible for opinions of correspondents is "backed up" by "Inquiries and Censures," which makes the editor responsible even for the quality of the wares advertised in the columns of his paper. "Grecian Farmers," the vulgar fellows, they planted their vineyards in "rows." Passing an article on "Soil," its origin, character, &c.; and one on Manures," our second lesson endeth with some account of the ravages of "The Currant Borer," by one who keeps both his name and residence to himself. I find that something is trimming off a part of this year's growth from many of my currants. Is this the work of your borer, Mr. FAR EAST?

THE THIRD TEN PAGES.

After a notice of the Franklin County Transactions, we have a very interesting article on "Ants and Aphides,"—their curious relation to each other,—and hints on the best means of preventing the ravages of the latter. The writer says a decoction of tobacco is a sure destroyer of the aphis, but it cannot be used upon leaves. I have frequently immersed the branches of small apple trees in it with little or no injury to them. "Farmer Pennywise and Farmer Poundwise" contrasted; good "Farming Implements and Machines" recommended; "The State Farm;" a group of "Spanish Merino Ewes;" and we turn over to a catechism on "Dissolving Bones;" read a brief notice of a very desirable "New Seedling Grape," and directions for using "Shell Lime;" with a *theoretical* explanation of its operation—who will give the practical? "R. B. H.'s" *Pennsylvania Farmer* (p. 253) says the shells should not be burnt, as a burnt shell differs not essentially from stone lime, except that it contains a small quantity of phosphorus. An appeal to farmers to "Spare the Sweet Songsters," or cease complaining of the ravages of insects. From the Address of Prof. Mapes at the Franklin County Exhibition, last year, the Editor takes extracts on various topics. "Science," says the learned Professor, "means simply knowledge reduced to a system so as to be readily taught and easily understood, and therefore, every truly practical farmer must necessarily be a scientific agriculturist." Well, well; is this all there is of Scientific Agriculture? Two articles more, one a criticism on a letter from S. F., of Winchester, published in the March number of the *Monthly Farmer*, and the other, on spelling the word plow, and we have reached the first of

THE FOURTH TEN PAGES.

"Theory and Facts—do they Agree?" Sometimes they do not, that is certain. The question, however, is well discussed here. "Fruit Trees"—Inquiries about 46 Baldwin trees that were said to have produced 300 barrels of apples in each of the years, 1850 and 1852, and some very judicious cautions against forcing trees with rich manure. Directions for raising "Early Radishes and Turnips" clean and nice, even in an old, wormy garden. Trial of the "Sod and Subsoil Plow" in Exeter, N. H. The next article, "Comparison between Ox and Horse Labor for the Farm," I am going to get round, by placing by its side that other article, by Mr Fiske, in the latter part of our present ten pages, and the one by Mr. Dewey, in the number for March, of this year, with the single remark that I have never yet seen any such twenty years' result with horses as Mr. Dewey figures up with his oxen. The "Wash from the Sink" of a small family worth $20—how manure is wasted! "Tired of Farming;" then "get rested as soon as you can," and up and at it again. That's it. "Cows and Oxen in Portugal" are better off, I should think from this account, than the men themselves, who "work for fifteen cents a day, and find themselves." Proceedings of "State Board of Agriculture," seventh meeting. "New and Untried Schemes"—The Reviewer handsomely reviewed. Special and exclusive might perhaps have better expressed my idea than "new and untried." I was testing the recommendation of Farmer's Libraries by this practical sort of home reasoning—Here, is our Winchester Library, costing some 5 or 600 dollars, fitted up with cases, catalogues, &c., is insured, and in care of a good librarian, who is paid 25 dollars a year for his services; all classes of our people are interested in its progress and usefulness; it has many agricultural works,—Downing's, Fessenden's, Coleman's, *N. E. Farmer*, *Farmer's Own Book*, &c., &c. Now, will even "our incog friend" advise the few farmers in Winchester to attempt the "new and untried scheme" of founding for themselves a special and exclusive library? Our last ten pages now close with a rap on the knuckles of the man with the jack-knife, hand-saw and meat-axe, who is yet occasionally allowed to show his skill in training up trees in the way they should go.

THE LAST EIGHT PAGES,

Give us a cut and description of "Phelps's Bee Hive;" Review of the May *Farmer;* Agricultural Axioms;" No. 4 of Mr. Fowler's "Birds of New England," which one cannot read with much satisfaction while the "village boys" are up in the wood-lot a-gunning; a minute description of the appearance and habits of the insect that, the writer thinks, produces "The Black Knot on the Plum; out-lines and description of "Monamet Sweeting;" a column of "Extracts and Replies," including a notice of a Mississippi farmer, who plants some 130 acres of corn, 220 of cotton, and has 100 varieties of Pears; a recommendation of "Apples for Milch Cows," which reminds me of a little incident in my own experience—about the time of the advent of Temperance Societies, my father's cidermill gave out early one fall, the apples were gathered and sheltered in the mill, which however was not repaired, and the apples froze up; during the winter they were put into a kettle, thawed and fed out sparingly to the stock. I recollect my father estimated those frozen apples at half the value of potatoes, and that the appearance of our stock was remarked by the neighbors, as uncommonly sleek and fine. This, with the Boy's Department, completes the June number of the Monthly *Farmer*, which the more it is

studied, the closer it is read, the higher it will stand in the estimation of all.

A READER.

Winchester, June, 1853.

SOILING COWS.

The superiority of soiling over the common method of turning cattle to pasture, or in other words allowing them a free range, is strongly contended for by many at this day. The practice, so far as it at present prevails in this country, has been introduced from Europe, where it has obtained for a long time, and where certain peculiarities of soil, climate and population, render it far more necessary than it now is, or very soon can be, with us. Yet if it really possesses the high merits claimed for it by its advocates—many of whom are among the most intelligent and discriminating farmers and dairymen our country can boast of, it is certainly by no means to be neglected. We have now before us as we write, the statements of many men of this class, and among the number a gentleman of Waltham, Middlesex Country, Mass., who had "four cows, and not a rod of ground which could be appropriated to pasturage. These animals, therefore, were never out of the barn or the bard yard, and were fed with grass mowed for them, with green corn fodder, which had been sown broad cast for them, and with about three pints of meal each, per day.—The amount of their produce was kept for thirteen weeks. Two of these animals were heifers of two years old, which had calves in the spring. The whole milk of one of them was taken by her calf during six out of the thirteen weeks. Some of the milk of the other was taken for family use, but the quantity was not determined. Under these circumstances three heifers could not be rated as more than one cow of full age and milk. From this stock, however, thus circumstanced and fed, *three hundred and eighty-nine pounds of butter* were made in the thirteen weeks! An additional pound would have given an average of thirty pounds a week, for the whole time, to a stock which must, in fairness, be set down as three cows only."

Where the soiling system is adopted, as it is on many farming establishments—among which we may mention that of the Shakers of New Lebanon, N. J., the superior quantity and quality of the manure is said to be sufficient to defray all the extra expense of cutting the fodder and feeding. It is all saved, the liquid as well as the solid excrement, and being preserved under cover, is of great strength and energy.

In our own practice we have been obliged to resort to this mode of feeding in order to keep stock enough to produce any thing like the amount of manure we desire to use.

By keeping the cows in the barn until about the tenth of June, our eight acres of old worn out pasture (though as good eight acres of land as any farmer need desire,) affords eight cows a pretty good bite until a crop of "cow corn," put into a warm and rich piece of land as early as it is fit for the seed, gets high and stout enough to cut. After this there is no difficulty, as a succession of crops of this highly nutritious fodder may then be obtained until October.

INVESTMENTS IN WEEDS.

It is some six thousand years since weeds became a serious and positive evil; yet if we should judge from the undisputed empire which they appear to have obtained on some men's domains, we should very naturally suppose that this long period had not been sufficient to reveal the fact. Elders, thistles, mulleins, Johnswort, red root, chess, cockle, fox-tail, pig-weed, mustard, ox-eye, &c., consume as much of the strength of the soil on some single farms, as would furnish grain for the family's yearly supply. We have heard of many bad investments of capital, from the South Sea scheme, a century or more ago, down to the multicaulis speculation of a later day, and railroads whose only dividends were the old iron originally used in making them. But South-Sea bubbles, multicaulis humbugs and grass-covered railroads have not consumed a tithe of the money lost every year by the mighty legions of foul materials in the shape of weeds, which are secretly and openly devouring the strength of the soil in all quarters of this round globe, wherever cultivation has turned up the soil to the sun.

We do not propose to say anything new on the subject of an evil that existed even "before antiquity appears to have begun;" but perhaps we may make a few suggestions of some use, at the present juncture, when the weeds are approaching the height of their vigor, and to which the wetness of the season in many parts of the country has imparted unusual strength.

"How shall we destroy them!" This is an interesting question, but there is no "royal road" to their eradication; it must be accomplished by vigilance and labor. There are, however, different modes of attack—some laborious and expensive, and others comparatively expeditious and economical. It is our present object to point out some of these.

When weeds are newly introduced, and when only a few scattered plants have made their appearance, they may be easily and thoroughly rooted out by the hand or hoe. But when they have multiplied from a few to millions—when the numbers become swollen like the little rill to the mighty river, such a retail attempt would be as futile as trying to dip out the waters of Niagara with a quart cup. In such instances, we are to look for some means of making a wholesale sweep of them. These means will vary with the nature of the weed against which the war is declared.

We need not go into detail with the modes of destroying weeds. Those which prevail most in pastures and meadows, are commonly best exterminated by a rotation of such crops as do not favor their increase; and on the other hand, many others are checked or smothered by a heavy seeding with grass. With some, as chess, cockle, &c., especial care must be taken to sow clean seed.

Chess is remarkably insidious in the numberless ways in which its seeds get possession of the soil, besides its rapid increase under favorable circumstances, which has in some instances been five thousand fold in a single season, making five thousand plants the second season, twenty-five million the third, over a hundred thousand million the fourth, and so on, provided every facility is given to its growth. Wild mustard, like red root, increases by seed, which if buried deep, will remain dormant a long period, ready to spring into life when the soil is turned up; but being an annual, instead of a biennial like red-root, annual sown crops are not favorable to its destruction, but it is best effected by hoed crops, or by frequent plowing and harrowings.

The scythe, the hoe, the plow, and the cultivator, if kept in motion, should be looked to as the great exterminators of weeds, but there are certain crops that often prove powerful auxiliaries. Dense grass is unfriendly to nearly all weeds; buckwheat often exerts a cleansing effect on perennial rooted creepers, by its smothering influence, besides the mellowing tendency of its deep roots; but we have never seen anything equal to corn sown in thick drills, in reducing both annual and perennial weeds, as well as the tenacious grasses. Sown at the rate of three bushels per acre in furrows three feet asunder, and then covered with the harrow; dressed with the one horse cultivator when a foot high, with no hoeing, it has left the land in autumn as clean as a newly plowed field, which without its effectual shade,would have presented an unbroken crop of weeds and grass as thick as they could grow.—*The Country Gentleman.*

CORN—FLAT VS. HILL CULTURE.

In your last number, under the head of "Spring Work," you express a desire to be informed as to the "relative advantages of hilling up corn, or letting it remain as planted, merely keeping it clean by horse and hand hoeing." After experimenting both ways for some time past, I have not the slightest doubt as to which mode is preferable. The planting being in rows at right angles, I simply use the Corn Cultivator crosswise, and thus leave the field mellow and level. This may be done as often as necessary; but, as it is easily done, I do it three times, and at each time let a man follow up with a hoe to repair injuries, which is done in a short time, and also to destroy the suckers at the last time. A ten acre lot can thus be easily and thoroughly dressed very soon, compared with the tedious hoeing and hilling system. It is obvious that this method decidedly economises both *time* and *labor*, as the horse and driver do nine-tenths of it on a walk. But this is not all. The stalk, having but one set of roots (which are long and strong,) shoots up vigorously and well supported, and consequently is not much affected by strong winds; the growth being steady and strong, the yield is more productive; there being no furrows, ridges, or hills, but all on even surface, it is quite natural that this is the true way to resist a drought. This was abundantly demonstrated the last season, so unusually dry, with my yield.

If it be desirable to seed the field with clover and timothy, or either, it can successfully be done at the last cultivating in July, for pasture or meadow the next season. If this be done, the stalks should be cut off close to the ground in the fall. It is surprising to see the happy effect of this way and time of seeding. I can show a field treated thus the last season, having grass six inches high and looking as rich as an old meadow of two or three years husbandry.

Persuaded that the cultivator ought to be adopted, instead of the old fashion hoeing and hilling system, I am prepared to believe that it will not be long before farmers will have but one opinion on the subject. To become fully satisfied, I think they need but one trial in a fair field. The result will readily establish this way of managing corn, for vigorous growth and yield, for security against the gale, for resisting a drought,for facility of seeding to grass, and above all, for economy of time and labor.—*Genesee Farmer.*

For the New England Farmer.

LAYING LANDS TO GRASS—STONES—TURNIPS.

Comfort for farmers in New England—Laying new land to Grass—Turnips and Super-phosphate of Lime—The Double Michigan Plow.

MY DEAR BROWN:—My professional harness has been fretting me so, of late, that even the glories of the "leafy month of June" have been floating around me for a whole week, without wholly enticing me from such antique companionship, as Coke and Blackstone.

But at length, "Richard is himself again," and now, for a season, as Daniel Webster said in his famous letter to John Taylor, "our talk is of oxen," and we will see whether we cannot render ourselves worthy of a place in the list of those "benefactors of mankind" who "make two spires of grass grow, where but one grew before" There is infinite satisfaction in overcoming difficulties, whether in mathematics, or agriculture, in conic sections, or sections of earth by the plowshare. Scott resolves all this satisfaction into "the conscious pride of art," the glory one takes to himself for doing what other men have failed to do, perhaps have not, even, had courage to attempt. "Hence we see" how much more happiness is to be derived from the cultivation of New England hills and valleys, than of a western prairie. *You* ought to be thankful, for the inexhaustible store of comfort treasured up for you and *James*, in the *stones* which adorn your homestead, and *I* for the *stumps*, which give such scope for genius on my new place! Shakespeare found "sermons in stones, and good in everything," and by the way, it occurs to me, that on this idea of the illustrious bard, your family need not go far from *River Cottage* to attend as much *preaching* as may be needful!

The great hero, who wept that he "had not another world to conquer," might have saved his foolish tears, had he been comfortably "located" on a hundred acres of New England land.

Perhaps my mode of subduing the earth, and making *many* spires of grass grow, where *none* grew before, may differ enough from the common fashion to be worth the notice of those readers of the *Farmer* who think as I do, that grass is the most profitable of all the staple crops. Having a new farm, my object has been to make grass fields, in the cheapest and most expeditious manner. I have pursued the same course on bog meadows, on

a clay loam by the river side, and on a sandy loam on the hill side, with equal success. My practice has been, *to lay the land to grass, without first raising any hoed crop, or grain, upon it.* The *common* practice has been, among our farmers, first to clear the land, then take off a crop of winter rye, pasture a few years, plow up and plant with corn or potatoes, two years, and lay down to grass with oats, rye or wheat, in the spring. This may be the best mode of doing the thing, on many old farms, but it is too *long a way* to a hay crop, when one *must* keep a stock of cattle, and sees plainly, that hay will be worth twenty dollars a ton, next year! I have a couple of acres of upland, which you may recollect, just over the bridge, now under treatment, and I will give you the process, as an illustration of the shortest *cut* to a crop of hay. Late last autumn, my men dug out by the roots, all the growth, enough to make twenty cords of wood; principally, yellow pine. We dug round the trees, cut off the principal roots, attached a rope to the trunks some twenty or thirty feet from the ground, and pulled the trees over, cut them into cord wood, and hauled the wood away. We have now drawn upon the lot, about twenty loads of good compost manure. Next week we expect to burn the brush, and plow the land with a heavy plow. Three good yoke of oxen, with one man to drive, one to hold the plow, one to cut before the coulter, with a sharp axe to sever the roots; and a fourth to follow with a bog hoe to turn the balks, make up my regular *team* for the business. This force will thoroughly plow from one-half to two-thirds of an acre a day. Generally, I use no harrow, but level the furrows with bog hoes. This may seem an unnecessary expenditure of labor, but the object is, to finish the work without disturbing the furrow, and the harrow will often bring up the sods, so as to require more labor to remove them, than to level the whole by hand. Six men can level with hoes an acre of any land thoroughly turned over by the plow, in a day, burying the turf in the hollows, and piling up for burning, whatever roots come to light. The next step, after taking off, or burning these roots, is, to spread the manure, say seven cords to the acre. If there is need of *drains*, they must be finished before the manure is applied. Brush the manure in well with a birch brush, drawn by a horse. Sow a half bushel of herdsgrass, and a bushel of red-top to the acre, roll the land, and the business is *done*. I prefer to sow it the last of August, or early in September, but have had a full crop when I have sowed as late as the first of October. Early in spring, on one of the last *snows*, sow eight or ten pounds of clover seed to the acre. Clover generally dies in winter, if sowed in the fall. Farmers will, of course, find it for their interest to vary the details of the operation according to the condition of their land. My land is entirely free from stones, and when once properly plowed, ten or twelve inches deep, is in pretty good subjection. It is indispensable to success, that a very heavy furrow be turned and laid flat, that the small bushes and grass, may not find their way to the surface.

I have more than a dozen acres which have been treated substantially in this manner, except that most of it had been cut over, so that I had stumps instead of trees, to dig out. A stump-puller would much facilitate operations, but I have never been able to procure one when I stood in need of it. My belief is, that land reclaimed at once, in this way, may be brought into grass with less manure, than by the common method. The usual crops of potatoes and grain exhaust the land, so that the grass runs out sooner than on land entirely new. My fields, thus made, are as smooth as old fields ordinarily are—smooth enough to be raked perfectly clean with Delano's Independent Horse-rake.

I last year laid down about a half acre, with grass seed and English turnips the last of July. Most of my turnip seed proved to be *mustard*, but not *all*, and I picked up between thirty and forty bushels of excellent turnips, with no extra labor or expense, but the gathering. I *did*, however, apply one barrel of bone-dust to the land, which was intended for the good of the turnip crop especially. I propose this year, to lay down one acre with turnips, if I can procure a bag or two of super-phosphate of lime, which is undoubtedly a powerful specific manure for all plants of the Brassica genus.

I am experimenting, in a small way, with the super-phosphate, this season. There is no doubt that it will prove a valuable aid to the market gardener and nurseryman. Whether it will be cheap enough for several field crops, is *one* of the questions. *Another* is, whether we shall ever be able to know whether the article is genuine, or a humbug. I am using Mapes's, and think well of it, so far. One of my neighbors is using another stamp, and thinks it an imposition. We shall be ready to say more of it by and by.

Many of our farmers are adopting the practice of turning over their grass lands after haying, applying a dressing of compost, and seeding again to grass. I think well of this method, having tried it with success. With the help of the Michigan Double Plow, the work can be done to perfection. I have top-dressed my grass-land a good deal, but am convinced, that as a general practice, it is a waste of manure, that is to say, that it is not the most economical mode of using it. There may be low places, on every farm, where top-dressing may be judicious.

And now, friend Brown, I want you to try one acre of your land, with grass seed and turnips, manured with the super-phosphate. Your hill pasture will not be injured by the experiment, I am confident. "Verbum Sap," &c.

Yours, H. F. French.

Exeter, N. H., June 8, 1853.

PRODUCTIVE FARMING.

In a treatise on Productive Farming just issued from the press, the following observations occur:—"It is in vegetable as in animal life; a mother crams her child exclusively with arrow root—it becomes fat, it is true, but, alas! it is rickety, and gets its teeth very slowly, and with difficulty. Mamma is ignorant, or never thinks, that her offspring can not make bone—or what is the same thing, phosphate of lime, the principle bulk of bone—out of starch. It does its best; and were it not for a little milk and bread, perhaps now and then a little meat and soup, it would have no bones and teeth at all. Farmers keep poultry; and what is true of fowls is true of a cabbage, a turnip, or an ear of wheat. If we mix with the

food of fowls a sufficient quantity of egg-shells or chalk, which they eat greedily, they will lay many more eggs than before. A well-fed fowl is disposed to lay a vast number of eggs, but can not do so without the materials for the shells, however nourishing in other respects her food may be. A fowl, with the best will in the world, not finding any lime in the soil, nor mortar from walls, nor calcerous matter in her food, is incapacitated from laying any eggs at all. Let farmers lay such facts as these, which are matters of common observation, to heart, and transfer the analogy, as they justly may do, to the habits of plants, which are as truly alive, and answer as closely to evil or judicious treatment, as their own horses."

THE NORTH AMERICAN SYLVA.

We have examined with much gratification the splendid work of MICHAUX and NUTTALL, now republished in this country, at Philadelphia. No recommendation of the work to our readers would be too strong, in urging them to purchase it.—Hundreds of them can spare the $45,00 required, and experience no inconvenience, while they would find much instruction and gratification in their perusal. They would also subserve the cause of scientific investigation.

We adopt the language of the *Horticulturist*, in its notice of the new edition of the work, and only regret that our limited means will not allow us the privilege of always having it at hand.

We are happy to learn that the superb edition of this great national work, published by Mr. SMITH, is in such demand that copies cannot be supplied as fast as they are called for. This speaks well for the growth of taste among the American people and for the interest they are taking in the productions of their own forests. It is a work that deserves the most complete success, not only for the important information which it contains, but for its elegance. The style of the engravings is good, and the coloring, done in this country, is, in many respects, equal to the original French edition. Those editions have long been out of print, commanding, before this appeared, no less than one hundred dollars a copy; that price was offered to our late American Ambassador in London for MICHAUX alone. The present edition, better translated than the English one which appeared in Paris, is now to be procured for *twenty-four dollars*; and with NUTTALLS's Continuation, also, in three superb volumes, the whole is offered for *forty-five dollars*.

From the nature of this work it can never become a "common book;" indeed, to possess it will always confer a sort of distinction. It is even now somewhat difficult to procure a copy of this new edition, so much time is necessarily employed in coloring the plates by hand, as so few artists exist in this country who can be trusted to work upon them. They give regular support to a number of ladies and gentlemen who do little else than color from morning to night. The result is, pictures entirely fit to be framed for ornamenting a drawing-room. By a little study of its valuable plates and comprehensive letter press, all may identify the products of our splendid forests, and learn to love what is so beautiful and worthy of study. If it were only to be able to know exactly all our American Oaks, or if they only were figured by this master of engraving, the work would be cheap, nay invaluable; but in addition, we have in MICHAUX and NUTTALL all the trees of our continent. The first named author described the trees of the Atlantic slope, and NUTTALL continued the labor to the Pacific, including Oregon and California. The trees from these new possessions are already finding their way to our nurseries and gardens, and NUTTALL's volumes are therefore indispensable, for his are the only descriptions extant of these western novelties.

Mr. SMITH, the editor, happily remarks in his introduction, "It was a singular circumstance, and a happy one for advancing science, that Mr. NUTTALL arrived in this country the very year that the younger MICHAUX left it. * * * * The two works are now one and homogenous; the former most highly valued by all lovers of trees, and the latter destined to be equally so."

* * * * * *

The elder MICHAUX is deceased, having fallen a sacrifice to his scientific zeal on the coast of Madagascar; REDONTE, the engraver, who has left such a world-wide reputation by his engravings of the work, the *Liliaceæ Rosaceæ*, &c., is no more; both Mr. MACLURE and Dr. MORTON have lately paid the debt of nature.

The elder MICHAUX commenced the "Sylva," by describing the Oaks of America; his son, F. ANDRE MICHAUX, who completed it, still survives, and resides in Paris, at the age of eighty-three years. He displayed a vocation for the natural sciences at an early age, and accompanied his father on his voyage to America. In 1802 he was employed by the French government to explore the country west of the Alleghany mountains, and published in 1804 his travels in that then distant and almost unexplored region. A second volume contained a memoir on the naturalization of roots of American forest trees in France. In 1810 he published the *Sylva*. No country can boast a more magnificent or useful account of any part of its natural production; it unites the advantages of a work strictly botanical, and of one relating to the useful arts, collecting all the scattered details which books or experience could furnish him, with respect to the application of the various kinds of wood to the purposes of life, which are extremely useful and important at the present day. The fame of both father and son may be regarded as the common inheritance of France and the United States.

FARMING INCONSISTENCIES.—Farmers dig their gardens two feet deep, but only plow their land five inches. They take especial care of their nag horses in a good warm stable, but expose their farm horses and cattle to all weathers. They deny the utility of drainage in strong tenacious clays, but dare not dig an underground cellar in such soils, because the water would get in. They waste their liquid manure, but buy guano from Peru to repair the loss; and some practical men, who are in ecstacies with the urine of the sheepfold, have been known seriously to doubt the benefit of manure. But it may be asked, "Where is the capital to come from for all these improvements?" The reply will be, "Where does the

capital come from to make railways and docks, to build steam vessels, to erect a whole town of new squares and streets, and to carry out every other useful and profitable undertaking.

For the New England Farmer.

WITCH GRASS—STATE CHEMIST.

FRIEND BROWN:—In the June number of your excellent *Farmer* I see an article on Witch Grass, in which you give a description of the various means resorted to, to free our soil from this most stubborn and troublesome occupant. The remedies you propose are much more expensive and tedious than I think is required. And as I have had to battle with it for the past ten years, I will, with your permission, give you the outlines of the course I have pursued, which is very simple, and has proved entirely successful.

It is this. Let the first plowing be rather late in the spring; not till after the witch grass is pretty well up. Let the ground remain some four or five days after plowing—then harrow, and ridge up as you would for carrots, let it remain in this condition some three or four days, watch for a hot sun, and throw open the ridges with a cultivator. Let it remain in this way some two or three days, then ridge again as before—and by following out the process of ridging and throwing open with the cultivator twice, you may be sure you have destroyed the witch grass, and for succeeding years too, providing you plant a crop that will cover the ground pretty quick. As I have occasion to use a large quantity of corn fodder, (which by the way, is the most profitable crop I believe that can be raised, for green feeding to milch cows,) I usually plant this. You perceive that it will be towards the first of June before you can have gone thoroughly through with this process, but still in ample time for corn fodder, potatoes, or even field corn—but one of these crops is better than any other I think of, to make complete clearing out, both of root and branch. The advantage of this plan over any other is, that you can do it all with your plow and cultivator, making a great saving in hand labor, and without being under the necessity of removing any of the roots from the field—let them remain—they will all disappear in the course of the season. So that the second year you wouldn't know there had ever been a root in the ground. I am now, (the 7th of June,) working a piece of land in the way I have described, and if you have any that you wish to try my plan upon, just let me know the result.

I notice, what I am sorry for, that the State Board of Agriculture report against the employment of a State chemist. You say the committee are "fully impressed with the importance of such operations and knowledge, but are still of the opinion that the time has not yet arrived when it will be expedient to recommend any distinct action on the subject."

Now as you are a member of the Board, it is quite possible you can give your readers some good reason for such a conclusion. For my own part, I know of none. If you wait for our State Legislatures to propose any thing of the kind, the time is surely a great way off, for action;—there can be no political capital made out of all this matter of agriculture, it is too common a thing altogether, for so wise and dignified a body to meddle with. How long will the people remain contented and satisfied with all this, can you tell me, friend Brown? If so I wish you would. For one, I am ready to move—and let the *people* move, through their County Societies, and Conventions; and in my humble opinion, we shall see some movements through our State authorities different from that we have yet seen. I have written enough for once, and will stop. Yours, J. H. R.

Dorchester, June 7th, 1853.

REMARKS.—Thank you, friend R., for the above, and hope that now your pen is in motion, we shall hear from you often.

With regard to the appointment of a State Chemist, our own convictions corresponded with the report of the Committee. Our rule of practice would be like that of the miller; that is, to keep the means of improvement always ready, as he keeps his hopper filled with corn, but not to supply it faster than it can be received and well ground. We would scatter the higher agricultural information as all other knowledge is spread, when it will fall, not upon a rock, but upon a soil prepared in some degree to receive it. The mind may be overburdened, as well as the mill-stones, and by attempting too much, you gain nothing, but actually retard the natural current.

EDUCATION OF OXEN.

A "Glenburn Farmer," in the *Bangor Whig*, contends that the practice of testing the merits of working oxen, at cattle shows, by the mere ability to drag the heaviest possible burden, is unsatisfactory and unsafe, as not exhibiting the most valuable qualities of the animals, nor showing their most useful capacities in the performance of their ordinary work. We annex a part of his sensible remarks:

"I would suggest that at the next trial of oxen at the Society's Show, it would be upon a judiciously loaded cart, and that the exercise should consist of drawing, turning, and backing. What the public want in regard to working oxen, is an exhibition of the best trained cattle for farm purposes. Nor is this all. We want to see the man who trained them, and his manner of doing it. We want an exhibition of good teamsters as well as good teams; for very much of the merit of a yoke or team of cattle belong to the teamsters. And instead of giving all the premiums to good oxen, one-half at least should go to good drivers. No driver, however, should receive a premium for himself or oxen, however good they may be, who uses profane language during the exhibition. A rule of this kind would have changed the direction of more than one premium at the late trial.

"Good teamsters are worth from five to ten dollars a month more than poor ones; and yet, with this difference in price, it is very easy to find a hundred, and I might say a thousand, poor ones for one good one. No man can be a good teamster who is not a gentleman. He must be gentle, kind and careful. No good teamster will put his oxen to an unnecessary waste of strength, or to unnecessary pain, by the use of the goad stick or brad.—*Wisconsin Farmer.*

HINTS ON THINNING FRUIT.

The prospects of an abundant fruit crop throughout most of the fruit-growing regions of this country, have scarcely ever been better, according to the best information we can obtain, than they are the present season. The winter was of more than an average mildness; and the spring, though early, has been cool, without any violent changes likely to affect the fruit buds. At the present moment (May 14th) peaches, cherries, and pears, show a remarkable profusion of blossoms. The temperature is lower than we could wish it to be, and for several nights there has been here a light frost, but owing to the dryness of the atmosphere, it has not, as far as we are able to judge, done any serious injury. Everything looks promising. Last season the crop was very light generally—in many localities a total failure; and this will contribute much to the abundance of this season's crop.

Now we wish to offer a few hints in regard to certain precautions, which the circumstances call for; that is, provided the crop will be as heavy as we have reason to anticipate. It is very well known that in favorable seasons, after a failure especially, trees bear too much. It is very common to see them so loaded with fruit as not only to cease growing entirely, but to bend and break down under its weight. This should be guarded against. Trees are in a multitude of cases enfeebled, broken, contract diseases, and are, in short, *ruined* by excessive bearing; and every man who appreciates the value of a full grown bearing tree, worth from $100 to $500 as the case may be, should guard against such a result as carefully as he would his ox or his horse against excessive labor that would be certain to injure or kill them.

Trees, like animals, have constitutions that can, by proper treatment, be kept sound for a great length of time, or by neglect, or bad treatment, broken down. Our opinion is that the feeble, diseased, and short-lived condition of the peach tree in New Jersey, is due, in a great measure, to a greedy or careless system of over-cropping. We know how races of men and horses degenerate, from hard labor and bad treatment—how they dwindle down in size, lose their proportion, symmetry and intelligence—in short, wear out, to use a very common but expressive term. Trees "wear out," too. How many we have all seen that in their youth, even before they had arrived at a full bearing age and size, began to look old—the branches twisted and knarly, the bark rough and mossy and all covered with small, feeble, ill-formed buds and fruit spurs, loaded perhaps with small, worthless fruit, not worth picking up.

Now those who desire to guard their trees against wearing out, must not be too greedy of a great crop. They must master that natural reluctance we all feel to pick off a portion of the fruit. They must thin them out so as to leave them evenly distributed over the tree, and only so many as can be brought to full and perfect maturity without injury or death to the tree. But we shall be asked, "How are we to know how many we ought to leave or how many to take?" Well, we confess it takes some little skill and experience to thin a crop judiciously, but he who goes about in earnest will find some indications to aid him. It will not do to thin in all cases alike, because the vigorous tree, in a generous soil, will carry a large crop without injury, and one that would be almost certain death to a delicate or feeble tree having limited resources in the way of food, just as a healthy, robust, well-fed man can perform a day's work with ease that a weakly, ill-fed man dare not attempt. The growth of a tree, the appearance of its foliage, the length and thickness of its young shoots, afford a very reliable guide as to the vigor of a tree and its ability to bear a heavy crop. Some varieties are naturally moderate and constant bearers, and if kept under good culture might never require thinning, while others bear enormously some years, the fruit actually covering every part of the tree and requiring props and supports to keep it from being torn to pieces. Such trees cannot bear so in successive years, nor can they long remain healthy. Then beside thinning the fruits, good culture must be given them in their fruitful years, and top-dressings of composts in a well decayed state. Garden trees may have liquid manure and mulching instead of top-dressing. Such care as this, not costing much, will not only sustain the vigor and health of trees, but produce large, handsome, marketable fruits. When a tree is loaded to breaking down, one-half or three-fourths of the fruit is worthless, and all the advantage of a large crop is lost.

We consider this subject of much importance to the fruit grower. We know by ample experience that it is. We crop our own trees heavily, perhaps too heavily; but every season we have to perform a thinning process, and we should consider the neglect of it nothing less than the wilful destruction of our trees.—*Genesee Farmer.*

For the New England Farmer.

FARM SCHOOL AT WESTBORO'.

MR. BROWN:—I am pleased to see the attention of the public called to the uses that should be made of the State farm at Westboro'. Here are hundreds of boys, that are from year to year to be scattered abroad in the community, dependent on their own exertions for a living;—starting under the necessity of having their first impressions eradicated. How important then that they be guided right! That they be so instructed as to be useful and respectable in the stations they may be called to fill! Suppose each of these boys to be thoroughly instructed in the operations required of the farmer, so that he could take the charge of this class of labor;—and that the young men who may go out from this institution, should have the reputation of being there instructed; would there be any question of their finding immediate employment? It is safe to say, there would not. How important then, for the young men, and for the community, that they be thus instructed.

If special care be not taken, so to instruct them, they will assuredly be bad. As well may you attempt to confine a multitude in a close room, without ventilation, and expect the air to remain pure, as to expect a multitude of youth, when congregated together, without employment, to retain their purity. All experience proves the evils of such associations. Satan always finds employment for the idle. When good is not doing, mischief will be brewing.

But sir, short stories are best. I hope those who have the power, will not be unmindful or neglectful of their duty.

May 31, 1853.

For the New England Farmer.

CORN-FODDER, AND CORN-STALK CUTTER.

The advantages of cutting up corn-fodder and mixing meal with it, for the feeding of cattle, particularly during a winter when hay is scarce and of a high price, were lately illustrated at the farm of Levi A. Dowley, Esq., in Brattleboro'. Mr. Dowley having a numerous stock to winter, and hay being worth fifteen dollars per ton, and not plenty at that price, he was induced to try the experiment of cutting corn-stalks and mixing meal with them, as a substitute for hay in the feeding of a portion of his cattle. Eleven cows, six steers coming four, six coming three, and ten coming two, years of age,—in all, thirty-three animals — were accordingly separated from the fatting cattle, and fed from about the first of December to the first of March last, with thirty-three bushels, each morning, of finely-chopped stalks moistened with water and then three pecks of meal mixed through the mass, with a like quantity each evening, and with uncut oat straw each noon. The meal was a mixture of Indian corn and of oil meal, in the proportion of three quarts of the latter to twenty one of the former.

The stalks fed during the three months as above mentioned, were a part of the crop grown on eighteen acres of land planted with corn last season, and yielding an unusually great product, both of grain and stalks. The entire crop was cut up at the surface of the ground, before the autumnal frosts appeared, and while the stalks were yet green and succulent, was well cured in the field, and then, after husking, the fodder was placed in shed lofts and over the barn floors, so that it came out in the winter fresh and sweet.

Some less than two-thirds of the quantity of fodder produced on the eighteen acres, was consumed by these cattle, during the period of three months ending on the first of March; and it was calculated that if the whole product of the same grown thereon, had been cut and fed as during the three months, it would have kept this lot of stock till the first of June: but on the first of March, it was quite apparent that the hay on hand would be sufficient for the feeding of the entire farm stock till grass-time; and accordingly the thirty-three animals received their portion of the hay night and morning with the other stock, and the balance of the corn forage was thrown about the yards during the day, the best of it eaten, and the coarser parts trampled under foot for litter and manure.

The wages and board of one man formed the extra expense incurred by reason of passing the stalks through the chaff-cutter, moistening them with water, adding the meal and feeding the prepared mass to the animals. The person employed for this purpose was paid twelve dollars per month, and his board may be called eight dollars per month—making an extra monthly expense of twenty dollars. The amount and value of the corn and oil meal fed each of the three months may be called—39 bushels of corn meal at 83 cents per bushel,—$32.37; and 6 bushels of oil meal at 78 cents per bushel,—$4,68; making a total cost of meal per month of $37,05.

Prices of labor, board, and of forage and provender varying more or less with different localities, no nice calculation of the exact cost or saving of this mode of feeding will here be made; but from the details that are given, each reader may draw his own conclusions of the expediency or otherwise of the same. Suffice it to say, that the experiment resulted satisfactorily to the projector of it, the animals were healthy during its continuance, and in good flesh at its conclusion.

The corn fodder was reduced to a complete state of chaff, or was cut in pieces one-quarter to one-half inch long, by a stalk-cutter invented and manufactured by Reuben Daniels, at Woodstock, Vt. It is a good machine, perhaps the best chaff-cutter yet made for reducing corn stalks to a fit state for being fed with meal; and it may be guaged to cut hay, straw, &c., to any length, from four inches to one-fourth of an inch. However, it has not, perhaps, all that capacity to take in, and to cut corn stalks as rapidly as one could desire.

We farmers are very much in want of a powerful, effective chaff-cutter, which shall take in a generous mouthful of corn stalks, cutting them very fine, and having that capacity of fly wheel and of geerings which shall cause the machine to work with facility and expedition by the application of the turning-power of one man. There are various machines, denominated hay cutters, in the market, which are well adapted to the purpose their name indicates; but they are wholly inadequate to the proper and profitable cutting of corn fodder—the very quality of forage which most needs improvement by being reduced to a fine and soft state, and by the addition of meal. If our agricultural machine-makers could but invent the right cutter for this business, they would confer an important benefit upon the farmers, as well as find a ready sale for such invention. Quite an additional breadth of corn and other coarse forage would be grown for winter feeding, if money could only purchase a suitable machine for quickly and cheaply reducing such forage to a proper state for economical feeding.

F. Holbrook.

Brattleboro', June 8, 1853.

TOWN HORTICULTURAL SOCIETIES.

> ——"To deck the shapely knoll
> That softly swell'd, and gaily dress'd appears
> A flow'ry island from the dark green lawn
> Emerging, must be deemed a labor due
> To no mean hand, and asks the touch of taste."

Mr. Editor:—Conversing with a friend in Massachusetts, a few days ago, I was much interested with his plan for the formation of town horticultural societies. Through his agency, such a society exists in Andover, Mass., which has been found both useful and pleasant to its members. Before the existence of this society, little interest was felt in ornamental flowers and shrubs or in scientific gardening. Through the agency of a single individual, Dr. Eastman Sanborn, of that village, a warm interest has been awakened in horticulture. Dr. Sanborn is enthusiastic in the culture of fruits and flowers; and like every other earnest and true patriot, he imparts both of his zeal and his choice flowers to others. When his neighbors see the beauty and inhale the fragrance of the beautiful products of his industry and skill, they admire his plan of creating comfort and happiness at home, and "go and do likewise." It is not enough to *see* and *smell* a beautiful flower while it lasts, one likes to have it with him; and when

a person has enjoyed the society and sweet language of a single flower, he, like Oliver Twist, always "asks for more."

The Andover Society holds regular meetings, and furnishes occasional exhibitions of fruits and flowers. Each member saves seeds from his own garden, for exchange with other societies and with the Patent Office at Washington. Thus they secure to themselves the most valuable specimens of flowers, fruits, plants, shrubs, and edible roots, which the gardens of the world afford.

They may make horticulture a source of income, if they choose; they cannot fail to make it a source of pleasure. The love of flowers is one of the most innocent, pure, and healthy affections of the human soul. There is no rivalry or loss of love in it. The passion never decays, but actually "grows by what it feeds on." It interferes with no duties, domestic or public, but adds a new charm to both and gilds with "the purple light of love" all the asperities and inequalities of life.

The biographer of the Empress Josephine mentions it, to her credit, that she was fond of flowers; and adds that this passion in females usually indicates a gentle temper and a loving heart. If this be the fact, in relation to females, the cultivation of flowers may have very important bearings upon their prospects in life.

The formation of village societies for improvement in experimental gardening is, certainly, worthy of consideration. If our citizens are indifferent to the ornamental part of horticulture, they cannot be so, with reference to the *useful and productive* department. The berries, fruits, plums, currants and edible roots of a well cultivated garden add very essentially to the substantial enjoyments of life. They also contribute greatly to the ordinary support of a family.

The *quantity* and *quality* of these comforts of a farmer's life may be materially improved by skill and industry. The skill may be acquired by comparing notes at a horticultural meeting and by personal experiments. The reward is certain. Let those who feel any interest in the welfare of their respective communities, consider these suggestions and resolve to act.—*Granite Farmer.*

THE CLIMATE OF COUNTRIES.

Although Edinburgh, in great Britain, is situated ten degrees farther north than the city of New York, it has a much warmer climate in winter, and the heat and cold never attain to such extremes. The climate of England is, to the majority of our people, a mystery. The island is situated between 50 and 55 deg. north latitude, and it has a milder climate than we enjoy in the latitudes of 40 and 45 deg. The British Isles are situated in the path of warm ocean currents, which flow across the Atlantic and beat upon and circulate around them. The wild Orkney Islands, which are situated in 59 deg. 5 minutes, have warmer winters than we have in New York city, which is situated about 17 deg. further south. In the city of Glasgow, the mean temperature in the month of January is 38 deg., and it has never been below zero but twice in forty years, and then only 3 deg. for two days. In Unst, in the Shetland Isles, in latitude 60 deg., 5 min., the mean temperature in January is 40 deg. In many places of the United States, ranging from New York to Maine, in lat. 45 deg., the mean temperature is 6 deg. below zero. Unst is only one degree colder than Constantinople, in January, and no country in Europe, nor the world, perhaps, enjoys the mildness of climate peculiar to Great Britain and Ireland. This must have a wonderful effect upon the health and organization of the people. The cause is, as we have stated, generally attributed to the currents of the Gulf Stream; one philosopher, however, attributes the genial warmth to moist breezes from Africa, which come over the Atlantic, crossing the equator. In Russia, Moscow is on the same line with Edinburgh, yet its temperature in winter is at least 13 deg. lower. The climate of England is moist and wet. To foreigners, accustomed to clear skies, it is disagreeable. The atmosphere is cloudy in summer, and this is one reason why it is not so warm as in other countries in the same northern latitude. Were it not for the warm ocean currents and the warm breezes, the coasts of England would be ice-bound, and many of the plants which now flourish there as evergreens, would be unknown.

On the northern coast of our continent—in northern Oregon—the climate is much warmer in winter than in places on the same lines of latitude in our Eastern States. It is believed that currents from the orient flow over the Pacific and wash the Oregon shores, as the Gulf Stream of the Atlantic does the British Isles. During the past winter the thermometer ranged at 17 deg. above zero, and the prairies were green all the time, except when covered by occasional snow storms. The farmer is not compelled, as in the Eastern States, to depend for the winter sustenance of his cattle on hay raised the previous season; his cattle can graze there throughout the whole year, and wild flowers may often be plucked in the months of January and February.—*Scientific American.*

THE FIRST SAW MILL.

The old practice in making boards was to split up the logs with wedges; and inconvenient as the practice was, it was no easy thing to persuade the world that it could be done in any better way. Saw mills were first used in Europe in the 15th century; but, so lately as 1555, an English Ambassador, having seen a saw-mill in France, thought it a novelty which deserved a particular description. It is amusing to see how the aversion to labor saving machinery has always agitated England. The first saw-mill was established by a Dutchman, in 1663; but the public outcry against the new-fangled machine was so violent, that the proprietor was forced to decamp with more expedition than ever a Dutchman did before. The evil was thus kept out of England for several years, or rather generations; but in 1758, an unlucky timber merchant, hoping that after so long a time the public would be less watchful of its own interest, made a rash attempt to construct another mill. The guardians of the public welfare, however, were on the alert, and a conscientious mob at once collected and pulled the mill to pieces. Such patriotic spirit could not always last, and now, though we have nowhere seen the fact distinctly stated, there is reason to believe that saw-mills are used in England.

☞ Drinking water neither makes a man sick, nor in debt, nor his wife a widow.

For the New England Farmer.

FANCY LOP-EAR RABBITS.

Mr. Editor:—Above I hand you a drawing from life of a doe and young, of the *English Lop-eared Rabbits*—such as are now bred to a wide extent in Great Britain, and which are very highly esteemed for the table, when fattened, or as pets with amateurs.

This tribe are beautiful creatures, are very easily reared, and have proved a most interesting addition to the stock of fanciers who have bred them. In England, they receive a good share of attention, and clubs exist there in all the large cities and towns who hold annual exhibitions, at which a good deal of competition is evinced for superiority.

My stock I imported last spring from London, Liverpool and Dublin; and I shall be happy to show it to those interested, at my residence, in Melrose. The peculiarities of this race consist chiefly in their great size, their fine colors, and their long pendant ears. They are exceedingly prolific—breeding six or seven times in a year—and may be kept advantageously in a very small space.

My rabbitry occupies a building 12 by 30 feet. The animals are confined in hutches three feet long and two feet wide. These hutches, (or apartments,) are ranged in tiers, one over another, five on a tier; and each rabbit occupies a separate hutch. The young are taken from the mother at our to six weeks old, and are afterwards kept together (six to ten,) in a larger hutch, in a separate room of the rabbitry. They are ready for breeding at 6 to 8 months old.

I am not aware that these pretty animals are now very extensively bred in this country, Mr. Rotch, of Morris, N. Y., and Mr. Rodman, of Dedham, being the only gentlemen that I know, who have fine stock; yet I think we shall very soon see more of them, from the fact that there is at present a good deal of inquiry for them, at home and abroad. I am yours, &c.,

Geo. P. Burnham.

For the New England Farmer.

STATE PAUPER FARM.

Mr. Editor:—In my remarks upon the pauper farm at Tewksbury, I said, "If the good people of this State expect that the farm will contribute in any important degree to sustain the establishment, they will be disappointed." But from this, it by no means follows, that it is unwise or ill-judged, to connect a farm with the institution. As I remarked, "it will furnish potatoes, garden vegetables, and milk." It will do more; it will furnish employment to a portion of the inmates for a part of the year at least. To furnish employment, and especially profitable employment, to the inmates of such institutions, has ever been the most difficult problem to solve in connection with them. It will afford many conveniences to the institution and contribute very much to its beauty and agreeable-

ness. It will furnish to invalids and to those recovering from sickness, ample grounds in which to take air and exercise, and by allowing the lines of enclosure to be removed to a greater distance from the house, will diminish its prison-like appearance.

Its moral effect also upon the people in the house, is by no means to be overlooked. Almost every human being, however ignorant and degraded, is influenced by the circumstances in which he is placed, by the scenery by which he is surrounded. The people who will occupy this establishment, will be more easily governed and kept in proper order, in a neat, convenient, well arranged house, and in grounds adorned with beautiful trees and flowers, and with avenues well kept and clean, than they would in a house in which no regard was paid to appearances, and in whose arrangements good taste had not been consulted. There is in every human heart a chord that vibrates responsive to the voices of nature and of beauty; and by these gentle voices, the most rugged and savage nature is softened and humanized. It is by no means, a matter of indifference, by what grounds and by what scenery, this and similar institutions are surrounded. But not to enlarge upon this subject, there is another reason why it is well that farms have been connected with the pauper establishment of the State. I notice by the report of the last meeting of the Board of Agricultural Commissioners, that the subject of appropriating a portion of the Reform School farm, to the purposes of experimental farming, was taken up and referred to a committee who are to confer with the Governor in respect to it. I see no reason why a portion of each of the pauper farms may not be devoted to a similar use, without diminishing in any material degree its economical value to the State. A series of scientific experiments might be accurately conducted with respect to the adaptedness of certain seeds and plants and fruits to the climate and soil of New England; with regard to the value of different kinds of manure, both natural and artificial; with regard to the kind of manure which different vegetables require; with regard to different modes of cultivating crops of established value; with regard to the feeding of stock, the value of different articles of nutriment, and their effect in producing muscle and fat, and the amount and quality of milk. We need a series of accurate experiments upon all these and many other subjects, and if their processes and results were carefully stated, they would be of inestimable value to the farmers and gardeners of the State. I have had occasion to observe before, in your paper, that the deductions of science, especially when they relate to subjects possessing vitality, need to be verified by experiment. When they relate to dead matter, if the circumstances are all known, they may be more safely relied on. But when they relate to subjects modified by the vital power, a power with regard to whose essence we know absolutely nothing, and with regard to whose laws we know but little, then they are to be relied on no farther than they are justified by actual experiment. The State now owns three farms, situated in sections distant from each other, and different series, or different classes of experiments, might be instituted upon each of them.

For instance, the Tewksbury farm is situated in a fruit-growing section of the State. The geological formation of all that region indicates its adaptedness to the cultivation of the apple; and were this indication wanting, the success of the fruit growers of Bedford, Billerica, North Tewksbury, Wilmington and Andover, proves this region suited to the cultivation of fruit. The Woodpecker or Baldwin, was first found in Burlington, but a few miles distant, and first cultivated to any extent, in Woburn and Wilmington, by Col. Baldwin and Capt. Jacques. The farm itself is admirably situated for the cultivation of fruit. The whole plat of ground on which the buildings are situated, would make a splendid orchard; some subsoil draining might perhaps be required of a portion of it. Considerable portions of it might be appropriated to the cultivation of different kinds of fruit, and to grafting and budding upon different kinds of stocks without interfering essentially with the production of vegetables for the establishment. A portion of the farm has a soil well adapted to the cultivation of garden seeds, and perhaps a part of the females in the house might be profitably employed in this kind of culture.

The stock owned by the State Agricultural Society might be kept at Southboro', and this might be made the stock farm of the State. Grains and grasses might be cultivated at Palmer, and thus the Agricultural Board or its Secretary might have an interest in each of them, and by visits and suggestions, by supplying seeds and plants, and artificial manures, and in various ways, might contribute to their agricultural success, and by collecting the results of these various experiments, and laying them before the public, they might accomplish one important end for which they were appointed. J. R.

Concord, June 14, 1853.

For the New England Farmer.

STATE REFORM SCHOOL.

MR. EDITOR:—The discriminating notice of the Institution for the reformation of disobedient boys, established by the State at Westboro', by the munificent donation of the late Gen. Lyman, contained in your paper of this date, is worthy of more than one perusal. Having participated in the view of the condition of the Institution, as it appeared on the 1st of June, I thought I might be excused in a few suggestions, for which you did not find space.

First, as to the *personal cleanliness* of the boys. If I do not mistake, there was a great deficiency. Their *hands* and their *faces* looked as though *water was scarce* and *soap dear*. Their *heads* too, it makes me *crawl all over* to think of them. Such things ought not to be. Who can wonder that deaths should be sudden and frequent, under such circumstances? One poor fellow from Salem, it was said, died the week previous, after an illness of only *four hours*; was this *cholera*? It cannot be called *Asiatic Cholera*. One gentleman remarked, he died of *rotten potatoes*—and when the cellar was examined, there was no want of proof on this point. Such an effluvia as pervaded the establishment entire, from decaying vegetables, I have never before met. Perhaps it was worse at that time, as they were then occupied in clearing the cellar. The *error* was in ever putting them there, or certainly in suffering them to remain, until they rotted.

Second, as to the *occupation* of the boys. A large proportion of them, say *seven-eighths* at least, were employed in *sewing leather*, or *sewing coarse garments*, for a paltry hire of 15 cents per day. This will do when there is nothing else that can be done. But why coop up the boys in this manner, when there is so much to be done upon the farm, where they are anxious to be employed!—Such confinement enervates their bodies, and humiliates their minds. It would not be strange at all under such circumstances, that they should be refractory. No one could blame them for being so.

The purpose of the founder, if I rightly apprehend it, was *to prevent*, rather than *to punish offences*. A truly noble purpose. This he would accomplish, by taking those youth who were so unfortunate as to be under no parental guidance or restraint, and placing them *during their minority*, where they could be employed and instructed; so that when they come upon the world, they might be found useful and worthy of confidence. To do this effectually, it is necessary that the boys who enter the institution should feel it to be *a privilege* granted them, rather than *a punishment inflicted;* and so it is, the indiscretions of youths of their age are not to be viewed as crimes. The character of their acts is far different from those of old offenders.

The boys should feel a confidence in being entirely forgiven. They should not be harrassed by the reflection, that they had done wrong. So long as they feel themselves to be looked upon as criminals, so long criminal thoughts will be uppermost in their minds. The boy who remarked in your hearing, "Some of us cannot help thinking," told the whole story. While they thus meditate, their chief aim will be to counteract the restraints of their overseers. Until they can be made to respect themselves, they will never be worthy to be respected by others.

To suppose these boys more disposed to evil, than the generality of boys of their age, in the community, is a great mistake. The fact is, boys, like men, are pretty much alike every where—only made different by accidental circumstances. I doubt not as much *talent* and as much *virtue*, can be found in a hundred of these boys, as in a hundred of the same age in any of our Colleges, Then why not so preserve and guide them, as to make men of them! If the State fails to do this it will fail to do its duty. ESSEX.

June 11, 1853.

For the New England Farmer.

TRIMMING PINE TREES.

MR. BROWN:—Will you please to put into your valuable paper a few lines respecting whether it is best or not to trim young pine trees, and when is the best time to do it to prevent them from bleeding. G. F. W.

REMARKS.—We cannot answer the questions of our friend with much confidence that we can afford him aid. The remark has been familiar to us from boyhood, that evergreen trees *must not be trimmed;* that nature will cast off the lower limbs, when the tree has done using them, in a better manner than we can separate them with the saw or knife. On the other hand, we have known individual trees that were trimmed and flourished well, and we have in our mind at this time, a large number of white pine trees standing in a body that were pruned seven years ago, and which have grown well since. They stood thick, and were pruned up perhaps six feet from the ground.

If pruned at all, we have no knowledge at *what time* the work should be done.

The inquiries are important, and we hope those possessing knowledge in relation to them will impart it to us.

For the New England Farmer.

A NEW ENEMY IN THE FIELD.

Within the past three days, we have noticed on our apple trees, a small worm, which threatens destruction to our most valuable crop. His *manner* and *size* are much after the style of the canker worm, but his *personal appearance* is different.—Like the canker worm, he devours the leaf, all but the tough fibres, and if you suddenly shake the tree, spins down on his thread like a spider, and he leaves the tree looking as if seared by fire.

The canker worm, if I recollect aright, when he visited New Hampshire twenty years ago, or more, was always of a *dark color*, and moved soberly, by *measure*, like an inch worm, while these creatures are of all colors, black, brown, green and striped, and they slip off your hand, with a sort of *waltzing* step, in a second.

I have traveled from Chester, through Raymond and other towns, home, to-day, and have observed them all along. They are abundant, not only on the apple tree, but on the plum, and on the white and red oak. The peach, which promises a great crop, this season, seems to be free from them.—Probably they are not fond of prussic acid. I note the matter hastily for the *Farmer*, without investigation, myself. Probably Professor Harris can tell us all about the animal in a moment.

H. F. FRENCH.

Exeter, N. H., June 20, 1853.

REMARKS.—These new plagues are common in this vicinity, and threaten sad havoc to the apple trees! but they infest our strawberry beds and even the pines in the woods. Every effort should be made to suppress them and their progress minutely watched, so that we may know more of their habits. Shaking the trees pretty freely, dislodges them, but whether they return to the tree harmless, or not, we have not observed. We advise this practice and also the syringing the young tree well with whale oil soap, strong soap suds, or even clear water.

We understand that the *muriate of lime* manufactured by JAMES GOULD, at Charlestown, Mass., *will* destroy them, by sprinkling the ground with the lime, and shaking the worms down upon it.

TO KEEP BIRDS FROM PICKING FRUIT.—As the season is coming on for the depredations of birds, I beg to report my experience of last year, when I saved my currants and gooseberries by winding colored worsted around and across my bushes; and

my cherries by hanging up several pieces of tin with strong thread in the different trees, two pieces being hung near enough together to clash with the wind, which sound, with the bright reflection of the tin in the sun, certainly frightened them away; and I had my due share of fruit, which, the preceding year, I was obliged to relinquish to them. —*Agricultural Gaz.*

For the New England Farmer.

ORCHARDS—MUCK—ASHES.

I have an orchard which I think needs lime.—There is a pile of swamp mud near it which was hauled there last fall. I purpose after haying, to mix lime with the mud and apply it to the orchard next spring. Can I do better? (*a.*) Had the lime better be slacked before mixing with the mud or not?

I have several coal hearths on my farm, where coal was burnt about 20 years ago. Would it be profitable to put around apple trees; if not, is it of more value than swamp mud for any use? (*b.*)

Cole, in the American Fruit Book, gives the analysis of the ash of the Apple Tree, potash, soda, lime, &c. He says, supply potash in wood ashes, soda in common salt, and so on. If there is soda, lime, and other inorganic matters in wood ashes, will they not supply them as well as potash? (*c.*) Of course the ashes of different kinds of wood will supply them in different proportions.

There are different opinions as to what killed the fruit trees winter before last. Trees grew very late in the fall, and the latter part of October there was a cold *snap* which I think was the principal cause. I took up some tender trees the beginning of November, and covered them so that they were nearly below the action of the frost; others of the some lot I let stand through the winter; both kinds were badly killed; I think there was not much difference. A Subscriber.

Remarks.—(*a.*) You will certainly do well to mix your muck with quick lime, and let it slake in the heap. We think of no way at present, in which you could do better with the materials.—Overhaul the heap as often as you can afford to before using, and if you spread it on the surface in the autumn the frost will act upon a much larger portion of it, and better prepare it for being plowed in.

(*b.*) Charcoal may be applied with advantage, in the powdered state, as a top-dressing. Wherever an increased supply of ammonia, escaping from the air, the earth, or from any putrescent matter, is desirable to be caught and retained, charcoal will always do good. The fresh burnt article, also—contains much saline matter that will be dissolved by rain, and contribute to the enrichment of the soil.

(*c.*) Wood ashes are better than potash to be used on most of our soils; and even leached ashes are capital fertilizers. They impart as much potash, soda, sodium, chlorine, &c., as the plants need, and they would take up no more in a given time if the quantity present were ten times as great. That is, we believe that plants have an elective power, both as to quantity and quality, as well as animals, and therefore, it is under a due and proper admixture of all the elements of fertility, that the plant flourishes best. Leached ashes, therefore may be just as valuable for the crop as unleached, but its permanent effects might not be the same.

We must be on our guard against the idea that the application of a single element will always increase the crop. It undoubtedly will in some cases, but until the science of chemistry in its relation to agriculture are carried to a much higher degree of perfection than it now is, we must apply most of the principal fertilizers to our soils, to feel any certainty of reaping a remunerative crop. Dr. Dana aptly illustrates this point. He says that attempting to work the soil without *all* the ingredients of plants present in sufficient abundance is like a man attempting to build a vessel thus: he may have all the plank, and ship knees, and spars, and sails, and rigging, and all other requisite materials, but *no nails* and *spikes!* and he can't possibly build his ship successfully. Nails and spikes are small matters, compared with the rest of the vessel, but he can't get along without them.

ORDER IN EVERYTHING.

A PROPOSED EXPERIMENT.

There has been no saying oftener repeated, and none more worthy of repetition, so far as farm economy is concerned, than "A place for everything, and everything in its place." One of the best modes for every farmer to apply this rule in practice, is to make a complete list of all his farm implements, from his wagons, carts and plows, down to awls, gimblets, and screw-drivers. Let every implement be immediately returned to its place after using, no matter how inconvenient this may be, instead of throwing it on the ground till forgotten, with the intention of replacing it when a suitable moment occurs to do so. Now, if any one is unprepared to adopt this plan, we would recommend the following experiment, in order to reduce its merits to the test of accurate figuring:—Let him keep an accurate record of all the time lost in one year by hunting for lost tools in times of emergency, adding in the losses occasioned by keeping other persons or teams in waiting while the search is in progress also adding the waste occasioned by the consequent exposure of such tools to the weather, or by finally losing them,—and not forgetting to estimate the detriment to his crops and farming operations generally, by the delay thus frequently occasioned. (He may, likewise, if he chooses, keep an account current of the amount of vexation caused by these frequent annoyances—unless he is so far gone that disorder and delay are matters of indifference to him.) We have no doubt that such an experiment as this, faithfully followed out, would greatly surprise him at the end of the year, and furnish satisfactory proof of the immense superiority of the plan first proposed by us. Who will be willing to give *both* ways a full trial?—*Albany Cultivator.*

For the New England Farmer.

PROTECTION AGAINST THE BEE-MOTH.

Mr. Editor:—You are aware that the great obstacle to the successful and profitable culture of the Honey-Bee consists in the depredations of the Bee-moth. Owing to these depredations many cultivators of bees have lost their entire stock and abandoned the enterprise. The great desideratum for many years has been to provide a remedy. The ill success of others in this respect has led me to be slow in announcing to the public what I have long believed to be an effectual safe-guard against the evil complained of. The remedy consists in a proper construction of the hive; and I have to announce to you, (and through you to the public,) that I have constructed a hive which has proved itself to be *a complete protection against the encroachments of the Bee-moth*. In its use for the space of 12 years I have not lost a swarm of bees nor had one in the least injured in this way; and I am now ready to warrant to others the same protection. Those who wish to avail themselves of such protection can examine my somewhat extensive stock of bees at my residence, or may address me by mail.

Henry Eddy, M. D.

North Bridgewater, May 19, 1853.

Remarks.—The above article is strictly an advertisement, but we are too good natured this morning to reject it as a communication, hoping that by extending the information we shall be the means of sweetening many a mouth that "waters," every time the word *honey* is mentioned.

EXTRACTS AND REPLIES.

C. S. Hamilton, *Hartford, Vt.*, says, "I have protected my melons, squashes and cucumbers from the ravages of the bugs and worms with boxes made about one foot square, covered with musquito netting, while my neighbors have been much troubled with them. The worms move on the top of the ground, and do not get under the boxes, and the plants grow much better.

To T. S. F., *Canaan Vt.*—Stable manure is not improved by being kept over one year, but is very liable to be injured, if not ruined, by being heated too much. It would be difficult to keep it, under any circumstances, so that it would not lose much of its fertilizing power.

If you can haul out a large bed of muck and lay it say 12 to 18 inches thick in some out of the way place, and there let it remain a year or more before using it, you will be less likely to bring meadow grass into your high grounds. During the time it is lying in the heap, plow it occasionally.

After it is a year old cart and spread it, in the autumn, on the land where you intend to plow it in.

Large quantities of muck may also be advantageously used by mixing it daily, or two or three times a week, with the droppings from the cattle stalls. This takes up and holds the liquids and prevents evaporation, in a considerable degree, of the gases.

"E. S.," in reply to the inquiries of S. G. B.," about fence posts being thrown by the frost, says, "dig the holes large and fill them with stones or charcoal dust. In setting post and rail fence, fill the holes only two-thirds full of earth. This will prevent the posts rotting for several years longer than though the holes were full." He adds—"The best time to kill alder bushes is in the old of the moon in August. If they are small, cut them down with a bush scythe; if large, use a common narrow axe, with a crooked helve, about three feet long, for then they can be cut without stooping over; cut them close to the surface of the ground, and if they spring up again the second year, they can be cut down with a grass scythe. In this manner I have been successful in killing many of these bushes."

Kyanizing Timber.

Friend Brown:—I have of late heard much of the durability and increased value of timber that has been *Kyanized*, for fence-posts, shingles, &c. Will you or some one who understands the *modus operandi*, please inform me "and the rest of mankind" how to Kyanize wood, and much oblige.

Yours, truly, A. D. Hager.

Proctorsville, Vt., May 9, 1853

Remarks.—The process of Kyanizing lumber is now abandoned, it having been ascertained that it does not accomplish the desired end,—that is, the preservation of lumber from decay. It consisted in soaking the materials, whether wood, hemp, rope, or other *vegetable* articles, in a solution of corrosive sublimate. It was held that a change took place in the *gluten* of the vegetable analogous to that effected by the tannic acid upon the gelatine of skins in the process of tanning. It is now believed by those who have made use of the process that it is of little or no value. The term is derived from the name of the inventor, Kyan.

May Flower Apples.

Mr. Brown:—I leave a package containing a few of my *May Flower Apples*, which I wish you to taste. You thought I was rather too favorably impressed with them, "as most men were apt to be with an apple kind enough to spring up on their own land." I think their equal is not found, considering their bearing, late keeping, and table qualities combined. The barrel from which these were taken, were put up in a common manner the last of September, and without especial care rolled into my cellar, which is none of the best for apples, and opened the 25th of May. Less than a peck were rotted or specked. The tree is a good bearer. Its eating qualities please test, and especially *bake* half what I left you, and see how near you coincide with me that they are number one.

Richard C. Stone.

Remarks.—Well, sir, so far as the eating quali-

ties are concerned, the May Flower Apples are all you give them credit for, if they did come up unbidden on your land. *Some* of the apples were baked and tested at our social board, and the only regret seemed to be, that you did not *send a barrel*, instead of "the package." They are deserving of extensive cultivation, and the *introducer* of them, of the thanks of all the apple-eating people.

Ladies' Department.

DOMESTIC RECIPES.

INDIAN MEAL DOUGH NUTS.—A tea-cup and a half of boiling milk, poured on two tea-cups of sifted Indian meal. When it is cool add two tea-cups of wheat flour, one tea-cup of butter, one and a half of sugar, one of yeast, and two eggs with a table spoonful of cinnamon or a grated nutmeg. If not sufficiently stiff, add equal portions of wheat and Indian meal. Let it rise till very light. Roll it about half an inch thick, and cut it into small diamond shaped cakes, and boil them in lard.

INDIAN MEAL SHORT CAKES.—Stir into a pint of sweet milk, three well beaten eggs, add a little salt, and half a cup of butter, with enough sifted Indian meal to make a thick batter. Drop it from a large spoon, upon buttered tins. Bake them in a quick oven—when they are lightly browned they are done. Send them to table hot, and eat them with butter.

INDIAN MEAL WAFFLER.—Boil two cups of hominy very soft, add an equal quantity of sifted Indian meal, a table spoon full of salt, half a tea-cup of butter, and three eggs, with milk sufficient to make a thin batter. Beat all well together, and bake in waffle irons. When eggs cannot be procured, yeast is a good substitute. Put a spoonful in the batter, and let it stand an hour to rise.

TO BOIL HAM.—Wash the ham in cold water two or three times, and put in a kettle of hot (not boiling) water to cover it; let it boil gently, according to its weight, (fifteen minutes to each pound); it must be kept slowly boiling all the time; keep the pot covered except to take off the scum as it rises; if it is like to boil over, take the lid partly off.

Putting meat down to boil in cold water draws out its juices. Hard or fast boiling makes it tough and hard.

When it is done, take off the skin, trim off the under side neatly, and put spots of pepper and stick cloves at regular intervals over the whole upper surface. Or dredge it well with wheat flour or rolled crackers, and brown it in a hot oven or before a hot fire. Serve hot with the gravy from it, and boiled vegetables; or it may be served cold. Trim the bone with parsley or the delicate leaves of celery, and put sprigs of the same around it on the dish; lemon sliced and dipped in flour, or batter and fried, may be laid over the ham and on the dish. Mashed potatoes, stewed apple, or cranberry, dressed celery, or boiled spinach, or cauliflower and mashed turnips, are served hot with ham.

With cold ham serve pickles or dressed celery, or both, and bread and butter sandwich.

Boy's Department.

THE SULKY BOY.

This is a species of ill-temper with which you are all familiar. We see persons afflicted with it, almost every day—and a sad affliction it is, too, both to themselves and to their neighbors. There is Robert—for instance—a good boy, in many respects, but once in a while he has a desperate fit of the sulks, which nearly if not quite balances the credit side of his character, and leaves him with more demerits than merits. So long as he can have his own way, every thing goes on pleasantly, but let his father interfere with some plan he has formed, or set him about some job he does not like, and you will soon find out what his temper is. For hours after, perhaps for a day or two, he is surly, morose and gloomy. He says but little, but when he speaks, he snaps and growls like an angry wolf. He pouts, scowls and looks sour at every body, friends as well as foes; and should you attempt to reason kindly with him on his folly he grows more obstinately sullen than ever. Do you ask what good all this does? I do not know. There certainly can be no pleasure in thus punishing one's self; on the contrary, he greatly aggravates his disappointment. A cheerful, sprightly temper makes its possessor happy; but a sulky one can only render its owner wretched. The lad I have described indulges only occasionally in these fits; but there is danger that this sullen state of mind will after a while become permanent with him, if he does not soon break himself of the habit. He is gradually souring his disposition, and the habit is growing upon him. It will be well if he does not turn out in the end a mere Nabal—the churl whose character is described in 1 Sam. 25.—*Boy's Own Guide.*

Advertising Department.

☞ A limited number of advertisements of an appropriate character will be inserted in the monthly Farmer at the following

RATES.

For one square of 15 lines, one insertion.....$1,00
For each subsequent insertion.....50

☞ The above rates will be charged for all advertisements whether longer or shorter.

English Fancy Lop-ear Rabbits.

THE undersigned will be happy to show a choice lot of imported *Lop-eared Rabbits*, to gentlemen interested, at his residence in Melrose. This stock is from the best in England, and was selected with care. I have a few young Rabbits for sale, which will be ready to deliver in July and August.

Address, GEO. P. BURNHAM, Box 22, Post-office.
Boston, June 11, 1853. 4w*3

Wanted,

An Ayrshire Bull, (full blood) from 1 to 2 years old. Apply immediately at this office.

May 21, 1853. tf*

Auction Sale of 4000 Acres of Land.

ON TUESDAY, the 12th day of JULY next, the subscriber will offer for sale at public auction, several choice and valuable farms in the vicinity of Lockport, in the county of Niagara, and State of New York; among them some of the best improved and most highly cultivated farms in this region of country. Also,

2000 *Acres of Choice Timbered Land,*

lying about eight miles east of Lockport, and five miles from the Erie canal and the Rochester, Lockport and Niagara Falls Railroad. The timber is principally Beech, Maple, Bass, Ash, Hickory and Oak. In the midst of this tract has been erected

A First Class Steam Saw Mill,

with a variety of valuable machinery, capable of manufacturing 20,000 feet of lumber every 24 hours, all in fine condition and active operation. The mill and the improvements connected therewith, have been erected within the past two years at a cash cost of over $20,000. The mill will also be offered for sale.

This tract is surrounded by a highly improved farming country, is watered by various streams which meander through it, and is well situated for subdivision. The soil is of the first quality. These lands have never before been offered for sale. No higher commendation of the property offered is needed, than to say it lies in the midst of the most fertile and flourishing portion of Western N. York. The proximity of the railroad,

The Local Demand for Cord Wood

and other lumber, render the timber upon this tract of very considerable value. This land will be sold in lots of 50 acres and upwards, as purchasers may desire. The quantity, condition, quality and value of the property offered, constitute inducements to purchase, rarely presented to the public, whether capitalists or agriculturists.

The titles are beyond question, and the sales will be absolute.

A liberal credit will be given to those desiring it, for a principal part of the purchase money. The whole quantity of land that will be offered for sale will be over 4000 acres. An examination of these lands is invited before the day of sale Lists and descriptions will be furnished to those desiring the same.

☞ The sale will commence at 1 o'clock P. M., upon the 2000 acre tract, and will continue until all the lands shall be sold. A. WOLCOTT.

Lockport, May 28, 1853. 7w*

☞ The subscriber begs leave to refer the public to—Hon. Nathan Dayton Hon. J. L. Woods, Hon. Hiram Gardner, Lyman A. Spalding, Esq., Lockport; Hon. Levi A. Ward, Rochester; Gen. R. Harmon, Wheatland, Monroe county; L. C. Fitch, Esq., West Bloomfield, Ontario county; A. A. Boyce, Esq , Utica.

Super-Phosphate of Lime,

IN bags and barrels, made by C. B. DuBURG, a warranted pure and genuine article, with full directions for use. For sale by GEO. DAVENPORT, 5 Commercial, corner of Chatham St., Boston, agent for the manufacturer,

Also, for sale, Ground Bone, Bone Dust, Burnt Bone, Guano, and Grass Seeds of reliable quality.

March 26, 1853. tf*

Haycock Covers.

FOR SALE, Haycock Covers made of the leaves of Bamboo, water tight. These mats are very useful to the farmer in getting in his hay crop during showery weather, and will annually save more than their cost in the quality of the hay.

For sale by RUGGLES, NOURSE, MASON & CO.

Boston, June 25, 1853.

Talacre Scythe Stones.

300 DOZEN TALACRE SCYTHE STONES for sale *very low* by T. B. BROWNE, 7 Doane St.

Boston, June 25, 1853. 2w

Garden Seeds.

WE respectfully solicit the attention of purchasers of GARDEN SEEDS to our extensive stock, which we offer for sale. We have all the sorts of Vegetable Seeds that have proved worthy of cultivation; also, Grain, Grass and Flower Seeds. All the varieties are raised and selected expressly for our trade, and we do with confidence recommend them to all who desire to procure seeds that will prove true to their names

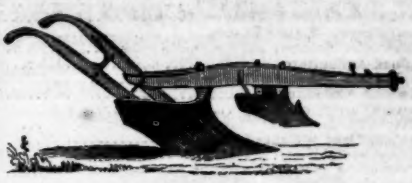
☞ Catalogues gratis, on application.

RUGGLES, NOURSE, MASON & CO.,

Jan. 1. Over Quincy Market, Boston.

THE BOSTON AND WORCESTER

EAGLE DOUBLE PLOWS.



THE superior merits of these Plows, consist in,

1. The mode of attaching the forward mould-board to the beam, by which great strength and durability are secured, as also the various desirable changes in depth of work, and relative depth of each plow, the same being regulated to any shade of nicety, with perfect facility.

2. The entire and handsome overturning of the sod furrow, by the forward mould-board, to the extent of the whole width of furrow taken by the plow, placing it beneath, out of the way of the teeth of the harrow, cultivator, or other implement, so that it is in no case dragged to the surface in the after-cultivation of the crop:

3. The thorough and finished work done by the rear mould-board, in taking up its furrow of under soil and sifting or scattering it over the inverted sod, so as to entirely fill to the surface, and at the same time break open any undue cohesion of the soil, leaving the plowed land in a finely pulverized condition, requiring little labor with the harrow or other surface-working instrument,—and indeed, in all tolerably free loams, rendering the use of these instruments, as pulverizers, quite unnecessary:

4. The remarkably light draught of the plow, in proportion to the amount of work and the thoroughness of pulverization accomplished.

Several sizes of the BOSTON & WORCESTER EAGLE DOUBLE PLOW, are made by the subscribers, from patterns of their own original invention. They invite their friends and customers to examine these Plows, as to quality and durability of material, thoroughness and finish of construction, and to test their working properties.

Manufactory at Worcester, and Warehouse Quincy Hall, over the Market, Boston.

RUGGLES, NOURSE, MASON & CO.

April 30, 1853.

Farm in Westboro', Mass.,

For sale or exchange, for Boston property, situated on the old Grafton road, within ¼ mile of the Railroad Depot, containing 27 acres of as good land as any other 27 acres laying in one body, in the town; it is elevated about 75 feet above the railroad, and overlooks the town, and is within 7 minutes walk of three churches and the town house, which for healthy location is unsurpassed. The buildings consist of a modern house, built by Boston mechanics in 1851, and is 32 by 22 feet, with a kitchen attached, 16 by 28 feet, two stories high, with a cellar under the whole. Wood-house, 16 by 20 feet; work-shop 16 by 12 feet; carriage and hen house, 16 by 21 feet; poultry yard, 30 by 53 feet, enclosed by slat fence 6 feet high; barn, 60 by 36 feet, with cellar under the same, so divided as to give a vegetable cellar containing about 2000 bushels; cistern and well water is brought into the house, and all the wash of the kitchen and privy is conducted by a drain to the barn cellar; likewise a farm house 24 feet square, 1½ stories high, cellar under the same; there are three good wells of water and one good brick and cement cistern on the premises. There are now on the farm 142 large apple trees, mostly grafted, also 230 young thriving apple trees, mostly Baldwins, from 4 to 6 years from the bud, some of them have borne fruit; likewise 34 peach trees of early choice variety, 10 pear trees, &c. There has been taken from the farm the past year, 30 tons of hay, 375 bushels of corn in the ear, 700 bushels of carrots, beets and S. turnips, 80 barrels grafted fruit, besides vegetables used in the family. For further information, apply at this office, of Messrs. SIMON BROWN or WILLIAM SIMONDS; at Westboro', of Messrs. FAYERWETHER & GRIGGS.

Feb. 5. 1853. tf

Suffolk Pigs.

The undersigned can supply a few orders for choice Suffolk Pigs of the best blood in the country. Also, a few Breeding Sows and 2 Boars. Address, postpaid, LUTHER GILBERT,

Newton, Lower Falls.

June 11, 1853. tf

CONTENTS OF THIS NUMBER.

Calendar for July.....Page 297
Birds of New England.....299
Ridging—Draining.....301
Strawberries—The Turnip Crop.....302
The Potato Crop—To Preserve Manures.....303
Frout Fences—Setting Posts.....303
Buckwheat—Summer and Autumn Apples.....304
German Agriculture.....305
Apple Trees—Almost a Rook's Egg.....306
Hawaiian Agriculture.....307
Plows—Variety of Borers.....308
A Day with the "Great Plow".....309
Live and Dead Weight of Cattle.....309
"Experimental Farming" again—Plaster Ashes, &c.....310
Action of the Atmosphere on the Roots of of Plants.....311
State Pauper Farm.....311
Circulation of Sap—Vegetable Economy—Orchards.....312
Hawaiian Agriculture—Chapter for Nice Old Farmers.....313
Cruelty to Animals—Grafting Old Trees.....314
Diversity in Theory and Practice.....315
The True Mode of Cultivation—Weeds.....316
About Sheep and Steers.....316
Visit to the State Reform School.....317
Lunar and Stellar Influence.....318
Mount Airy Institute.....319
Living in Clover—Important to Farmers.....320
Charcoal.....321
Manures—their Nature and Constituent Principles.....322
Composting.....322
Food of Plants—Mode of Supply—Nourishment.....323
Analysis of Soils and their Productions.....324
Another Trial of Plows.....325
The Flowers—Horses—Careful Use of, &c.....326
The Onion Worm.....326
Monthly Farmer for June.....327
Soiling Cows—Investment in Weeds.....329
Corn—Flat vs. Hill Culture.....330
Laying Lands to Grass—Stones—Turnips.....330
Productive Farming.....331
The North American Sylva.....332
Witch Grass—State Chemist—Education of Oxen.....333
Hints on Thinning Fruit—Farm School at Westboro'.....334
Corn-Fodder and Corn-Stalk Cutter.....335
Town Horticultural Societies.....335
The Climate of Countries—The First Saw Mill.....336
State Pauper Farm.....337
State Reform School.....338
Trimming Pine Trees—A New Enemy in the Field.....339
Orchards—Muck—Ashes—Order in Everything.....340
Protection against the Bee Moth—Extracts and Replies.....341
Ladies' Department.....342
Boy's Department.....342

ILLUSTRATIONS.

Watering the Garden.....304
Cisterns.....305
Yellow Siberian Crab.....321
Fancy Lop-Ear Rabbits.....337

LANGSTROTH'S

Movable Comb Hive,

(Patented Oct. 5th, 1852.)

EACH comb is built on a movable frame, and in five minutes they may all be taken out, without cutting them or enraging the bees. Weak stocks may be helped to honey and brood from stronger ones; queenless colonies supplied; the worms caught; and new colonies formed in less time than in usually required to hive a natural swarm. That the safe and easy control of the combs, makes a complete revolution in bee-keeping the subscriber prefers to *prove* rather than assert. At his Apiary, combs, honey and bees will be taken from the hives, the queen exhibited, and new colonies formed. By the close of May his work (350 pages) on the Honey-Bee will be published. It contains many new and highly important discoveries, and gives full directions for managing bees, in the author's hive, or any other. Cost of hives from one to five dollars; farm rights five dollars. For one dollar, postage paid, the book will be sent free by mail. On receipt of eleven dollars, a beautiful hive showing all the combs, (with glass on four sides,) will be sent with book and right, freight paid, to any Railroad station in New England; a right, book and hive for two colonies, with glass on each side, for $13; a thoroughly made hive for two colonies, glass on the bank only, with book and right, for $11. Address,

L. L. LANGSTROTH, Greenfield, Mass.

May 14, 1853. 3w*3

Bound Volumes.

BACK VOLUMES of the NEW ENGLAND FARMER, elegantly bound in Muslin, Gilt and Embossed, are now for sale at this office.

NEW ENGLAND FARMER

Is published on the first of every month, by JOHN RAYNOLDS and JOEL NOURSE, at Quincy Hall, South Market St., Boston.

SIMON BROWN, Editor.

FREDERICK HOLBROOK, } Associate
HENRY F. FRENCH, } Editors.

☞ Terms, $1,00 per annum in advance.

☞ All subscriptions to commence with the volume, Jan. 1.

The FARMER, is devoted *exclusively* to Agriculture, Horticulture, and their kindred Arts and Sciences; making a neat volume of 576 octavo pages, embellished with numerous engravings. It may be elegantly bound in muslin, embossed and gilt, at 25 cts. a volume, if left at the office of publication.

☞ Also published at the same office every Saturday, on a large handsome folio sheet, the

NEW ENGLAND FARMER, (WEEKLY,)

An Independent Agricultural Family Newspaper.

The News and Miscellaneous departments under the charge of WILLIAM SIMONDS, will include a full and careful report of the news of the Markets, and the news of the week, such as Domestic, Foreign and Marine Intelligence, Congressional and Legislative proceedings, Temperance and Religious Intelligence, and a general variety of Literary and Miscellaneous matter, adapted to family reading, comprising more useful and valuable reading matter than any other Agricultural Newspaper published in New England. Everything of a hurtful or even doubtful tendency will be carefully excluded from its columns.

☞ Terms $2,00 per annum in advance.

The monthly contains nearly the same matter as the Agricultural department of the weekly.

☞ Postmasters and others, who will forward four new subscribers on the above named terms, for either publication, shall receive a fifth copy gratis for one year.

☞ All orders and letters should be addressed, *post-paid*,

RAYNOLDS & NOURSE,

QUINCY HALL, SOUTH MARKET STREET, BOSTON.

☞ POSTAGE.—The postage on the New England Farmer monthly, is 1½ cents per quarter, or 6 cents per year, to any part of the United States, to be paid in advance at the office where the same is received.

Haying Tools.

1000 dozen superior Grass Scythes.

PHILLIPS, Messer & Colby's—Darling's—Farwell's—Mansfield & Lamb's—Keyes & Dunn's.

Also, Lawn, Grain and Bush Scythes, of the best quality.

1000 dozen Scythe Sneaths.

Patent Grass, Lawn and Bush Sneaths, from the best manufacturers in the country.

2500 dozen Hay Rakes.

Hall's, Simonds's, Carpenter's, Page & Wakefield's, Robinson's, Duggan's and English best Hand Rakes.

500 Drag Rakes.

This Rake is a hybrid between the Hand and Horse Rake every good farmer should have one or more.

3000 dozen Scythe Rifles.

Clark's celebrated Whetstone Grit and Emery Rifles. Also, Austin's, Anson's, Willard's, and others.

200 gross Scythe Stones.

Quinebaug, Chocolate, Norway Rag and Indian Pond; also, Woodward and Talacre (English) Scythe Stones.

20 tons Grindstones.

A well selected assortment of the celebrated Blue Sheet, warranted. Also, Grindstones of all sizes, mounted on frames and rollers complete.

Grindstone Fixtures, viz: Flanges, Arbors, Cranks and Rollers.

800 Horse Hay Rakes.

Delano's Patent Revolving and Spring Tooth Hay Rakes; all of which will be sold at wholesale or retail, at very low prices, by RUGGLES, NOURSE, MASON & CO.,

Over the Market, Boston.

June 25, 1853.